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CATALOG

Oklahoma Agricultural & Mechanical College

1910
1911

STILLWATER, OKLAHOMA

OKLAHOMA
AGRICULTURAL AND MECHANICAL COLLEGE

UNIVERSITY OF ILLINOIS

PRESIDENT'S OFFICE

NINETEENTH
ANNUAL CATALOG
1909-1910

WITH ANNOUNCEMENTS FOR 1910-1911

STILLWATER, OKLAHOMA

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COLLEGE CALENDAR

1910

September 5, Monday—The Fall Term Opens.

October 11, Tuesday—The Short Course in Agriculture and Domestic Economy Opens.

November 24, Thursday—Thanksgiving Day, a holiday.

December 21, Wednesday—The Fall Term Closes.

1911

January 3, Tuesday—The Winter Term Opens.

January 9, Monday—The Butter Makers' Course Opens.

January 14, Saturday—The Butter Makers' Course Closes.

January 16, Monday—The Winter Short Course for Farmers Opens.

January 21, Saturday—The Winter Short Course for Farmers Closes.

February 22, Wednesday—Washington's Birthday, a holiday.

March 10, Friday—The Winter Term Closes.

March 10, Friday—The Short Course in Agriculture and Domestic Economy Closes, Graduation Day.

March 14, Tuesday—The Spring Term Opens.

April 22, Saturday—The Annual Field Meet and the Annual Oratorical Contest.

May 6, Saturday—The Third Annual Northeastern Oklahoma Inter-Scholastic Track and Field Meet.

May 26, Friday—The Annual Debate between Literary Societies.

May 27, Saturday—The Annual Senior Class Play.

May 28, Baccalaureate Sunday.

May 29, Monday—Commencement Day, the Spring Term Closes.

June 6, Tuesday—The Summer School, (including the Summer Normal, the Summer Session of the College, and Summer Business Course,) Opens.

July 14, Friday—The Summer School Closes.

July 17, Monday—The Cotton Grading School Opens.

August 5, Saturday—The Cotton Grading School Closes.

August 8, Tuesday—Annual Meeting of State Farmers' Institutes and the State Board of Agriculture.

(The Faculty reserves the right, without further notice, to modify any announcement made in this catalog, if circumstances render such change necessary, and in any event they will be bound by it for only the year following the date of publication.)

STATE BOARD OF AGRICULTURE

The Board of Regents

HON. J. P. CONNORS, *President*.....Canadian
HON. W. R. LINDSEY, *Vice President*.....Choteau
HON. R. F. WILSON, *Treasurer*.....Valliant
HON. O. A. BREWER.....Helena
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HON. J. W. L. CORLEY.....Howe
HON. DAN DIEHL.....Gotebo
HON. J. C. ELLIOTT.....Pauls Valley
HON. FRANK IKARD.....Chickasha
HON. EWERS WHITE.....McLoud

FACULTY

J. H. CONNELL, M. S.
President

LOWERY L. LEWIS, M. S., D. V. M.
Professor of Zoology and Veterinary Science

RICHARD E. CHANDLED, M. M. E.
Professor of Engineering and Physics

OSCAR M. MORRIS, B. S.
Professor of Horticulture and Botany

SARAH WINDLE LANDES
Professor of Domestic Economy

*LLEWELLYN A. MOORHOUSE, M. S.
Professor of Agronomy

ROY C. POTTS, B. S.
Professor of Dairying

W. W. JOHNSTON, A. M.
Professor of English

BOYD A. WISE, Ph. D.
Professor of German and Latin

B. C. PITTUCK, B. S.
Dean of District Agricultural Schools and Assistant Director

IRA F. FRAVEL
1st Lieut. 24th Infantry, U. S. A.
Commandant of Cadets

W. A. LINKLATER, B. S. A.
Professor of Animal Husbandry

W. A. ETHERTON, B. S.
Professor of Architectural Engineering

*JOHN A. CRAIG, B. S. A.
Director of Experiment Station

T. M. JEFFORDS
Professor of Agriculture for Schools

HARDEE CHAMBLISS, M. S., Ph. D.
Professor of Chemistry

CARL GUNDERSON, Ph. D.
Professor of Mathematics

C. E. SANBORN, M. A.
Professor of Entomology

*Resigned May 1.

C. J. BUSHNELL, Ph. D.
Professor of Political Economy and Social Science

JOHN H. BOWERS, Ph. D.
Professor of Pedagogy and History

REBECCA ACHESON
Professor of Domestic Arts

S. A. MARONEY, B. S.
Principal Sub-Freshman Department

I. ZACKHEIM
Royal Conservatory, Konigsberg, and Imperial Conservatory, Warsaw,
Director of Music

R. A. COVERDALE, M. Ac.
Principal Business Department

W. E. SCHREIBER, A. B.
Director of Physical Training for Men

.....

Principal of School of Agriculture

E. E. KING, M. S., C. E.
Associate Professor of Civil Engineering

ARLINGTON P. LITTLE, B. S., E. E.
Associae Professor of Electrical Engineering

CHARLES E. SCHOENE, B. M. E.
Associate Professor of Mechanical Engineering

EMMA J. ROSS
Posse Gymnasium and Emerson School of Oratory
Director of Physical Training for Women

INSTRUCTORS AND OTHER OFFICERS

HOWARD G. SELDOMRIDGE
Graduate Curry School of Expression
Instructor in Public Speaking and Assistant in English

*W. L. BURLISON, M. S.
Assistant Professor of Agronomy

W. P. WEBBER, A. M.
Assistant Professor Mathematics

E. H. ROSE
Assistant Professor of Chemistry

CORA A. MILTIMORE, A. B.
Librarian

E. F. AYRES
Office Good Roads—Engineering Department

CHARLES K. FRANCIS, Ph. D
Experiment Station Chemist

CHARLES I. BRAY, B. S.
Assistant Professor of Animal Husbandry

ED McCARRELL
Assistant Sub-Freshman Department

E. J. WESTBROOK
Superintendent Printing Department

A. L. LOVETT, B. S.
Assistant in Entomology

HARRIETT DAY
Instructor Drawing and Art Work

R. O. BAIRD, B. S.
Assistant Chemist Experiment Station

MADGE BOOKS SANDERS
New England Conservatory of Music
Assistant in Music

CHARLES W. CRAWFORD, B. S.
Assistant in Station Laboratory

ORPHA CATON, B. S.
Assistant in Domestic Science

W. E. LAWRENCE, B. S.
Assistant in Horticulture and Botany

E. CARROLL BEACH
University of Nebraska School of Music
Instructor in Violin and Band Instruments

*Resigned May 1.

G. M. LAMBERT, B. S.
Field Dairyman

SAM GASKILL, LL. B.
Assistant in Sub-Freshman Department

J. C. SKILLMAN
Assistant in Business Department

A. R. EWING
Assistant in Mathematics

L. FRANK STEWART
Assistant in English

ADA BELLE HOUSE, M. A.
Assistant in English and Mathematics

ROSE MURRAY
Assistant in Music

EDWIN GALLAGHER, B. S.
Assistant in Physical Training for Men

W. A. STARIN, M. A.
Assistant in Bacteriology

F. B. WILSON, B. S.
Assistant in Dairying

S. C. BEDINGER
Assistant in Business Department

C. H. McELROY
Assistant in Bacteriology

E. E. BREWER
Foreman of Shops

W. R. BARNEY
Assistant in Shop

C. W. SKINNER
Assistant in Shop

S. KRAFTS
Engineer

R. E. ANDERSON, B. S.
Registrar

W. W. EVANS, B. S.
Superintendent of Farm

S. E. ANDREWS, LL. B.
Secretay to the President

DOCTORS SELPH AND CLEVENDON
College Physicians

J. L. McKEOWN
Financial Secretary

LULA TOURTELLOTTE
Acting Station Clerk

M. McDONALD
Assistant Commandant of Cadets

P. J. DAVIS
Assistant in Physical Training for Men

MISS BERTHA COMBS
Assistant in Physical Training for Women

CHART OF A. & M. COLLEGE WORK

Oklahoma Agricultural and Mechanical College

(The College after 19 years of development consists of 63 professors and assistants, a student body of 1700 attending the past year, a group of nine brick and stone buildings and two others under construction, a science equipment costing $175,000, and 1000 acres of land)

1. Students in Attendance on Courses of Study in—

(1700 students 1909-10)

- AGRICULTURE
- ENGINEERING
- DOMESTIC ARTS AND SCIENCE
- SCIENCE AND LITERATURE
- TEACHERS' NORMAL
- BUSINESS TRAINING
- SHORT COURSES FOR
  - FARMERS
  - DAIRYMEN
  - COTTON GRADERS
  - TEACHERS

2. The OUTSIDE Work for People of the State by—

(35,000 citizens receive reports and 5000 teachers addressed by lecturers)

- Agricultural Experiment Station tests and free publications.
- Scientific research in behalf of Agriculture, and publishing results.
- Lectures at Farmers' Institutes and other meetings.
- Lectures at Teachers' Normals and Institutes, and publishing special literature.
- Organizing Boys' and Girls' Clubs at home for the study of Agriculture, Domestic Science and related subjects.
- Supplying lecturers and technical literature on Road Building, testing building material, etc.

THE NEW STATE IS OUR PARISH

Partial View of the A. & M. College Campus

*APPLICATION BLANK—OKLAHOMA AGRICULTURAL AND MECHANICAL COLLEGE

I herewith submit this application for the student privileges of the session 1910-11 in the Oklahoma Agricultural and Mechanical College, and do hereby sincerely promise on honor that if this application is granted I will faithfully obey the rules and regulations of the College, will support its constituted authorities in the administration of all its affairs, and I will not enter into or be bound by any agreement or combination with any person or persons for the accomplishment of any purpose at variance with the letter or spirit of the College rules and regulations, or act as a member of any College class, military company, or other organized body for the accomplishment of any such purpose. (A copy of the College Rules will be sent on request.)

I do further sincerely promise on honor that I will not join or be a member at any time of of any secret society, Greek letter fraternity, or organization of like character composed primarily of students, nor will I countenance or approve of student societies, organizations or assemblages other than those formally approved by the Faculty of the College so long as I am a student of this institution.

Name of Parent or Guardian .....

Address of Parent or Guardian ..... Street / R. F. D. .....

Occupation of Parent or Guardian .....

School or College last attended ..... Class completed .....

Did you graduate, if not, what grade did you complete? .....

Church preferred? ..... Member? .....

Signed ..... Age ..... Years

(Write each name in full. Do not use initials.)

(Not to be filled in by applicant.)

Class admitted to ..... Course .....

By Examination. Special Assignment. Certificate. Diploma.

Conditioned on .....

Entrance Credits on .....

(Adviser .....) Approved .....

*This form adopted by the Faculty, July 11, 1910.

Chairman of Committee on Entrance.

THE OKLAHOMA AGRICULTURAL AND MECHANICAL COLLEGE

The State Agricultural and Mechanical College as now organized and operated is a State and Federal institution of higher and broader learning, offering industrial, scientific and liberal education to white persons 14 years of age and over. The College also conducts extensive investigations and carries forward research work to establish new scientific truths of value to the people of Oklahoma.

The College was organized in 1891 and after 19 years of sturdy effort now consists of 63 professors and instructors, 1700 students attending last year, 9 large brick and stone buildings, (and two others in course of construction,) an equipment valued at $175,000.00 and 1,000 acres of land.

Tuition is free in all courses and departments. The College is supported entirely by the Federal Government and by the State of Oklahoma as a part of the free school system.

LAWS CONCERNING THE COLLEGE

This College owes its origin to a bill offered by U. S. Senator Morrill, of New Hampshire, in 1862, which provided funds for one such institution of learning in every State of the Union, and set aside certain public lands from which endowments have come to each of these state and federal colleges. Therefore these institutions are known as "The Land Grant Colleges". The National Grange gave the "Morrill Bill" cordial support and was largely instrumental in securing its final passage.

This act of Congress, approved July 2, 1862, gave to each state which accepted its provisions 30,000 acres of government land for each one of its representatives in Congress, the proceeds to be applied to the endowment and maintenance of colleges

> "where the leading object shall be, without excluding the other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and mechanic arts, ... in order to promote the liberal and practical education of the industrial classes in the various pursuits and professions of life".

Again, in 1887, Congress provided for an Agricultural Experiment Station in connection with each of the Land Grant Colleges:

> "That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture and to promote scientific investigation and experiments respecting the principles and applications of agricultural science there shall be established under the direction of the College in each state or territory established . . in accordance with an . . . 'Act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts' . . . a department to be known and designated as an 'Agricultural Experiment Station' ".

The First Legislature of the Territory of Oklahoma adopted a resolution assenting to and accepting the provisions of Congress and established the Oklahoma Agricultural and Mechanical College in Payne County, December 25, 1890.

Congress set aside 250,000 acres of public land as a permanent endowment for this institution in the Enabling Act granting statehood.

The Oklahoma Constitution provides that this College shall be under the supervision and management of the State Board of Agriculture in the following:

> "Said Board (of Agriculture) shall be maintained as a part of the State Government and shall have jurisdiction over all animal quarantine regulations and shall be the Board of Regents of all State Agricultural and Mechanical Colleges . . . "

The Oklahoma Constitution is the only state constitution recognizing the fundamental importance of Agriculture and Domestic Science. Our constitution declares that

> "The Legislature shall provide for the teaching of agriculture, horticulture, stock feeding and domestic science in the ommon schools of the State".

According to the Oklahoma State Statutes *"The Agricultural and Mechanical College shall be the technical head of the Agricultural, Industrial and allied Science system of education in Oklahoma".*

EDUCATIONAL POLICY

The Board of Regents has carefully considered the wide field of education in which this College was designed to perform its work and has approved courses of instruction prepared by the faculty embracing courses in agriculture, mechanic arts, military science, domestic science and the "related branches, without excluding other scientific and classical studies" as expressed in the Morrill Bill. All the courses offered, which are fully described in this announcement, are therefore essentially scientific, practical, industrial and professional, while at the same time providing a "liberal" education. These courses are of true college grade and each includes instruction in mathematics, English language, history, physics, political economy, etc. The degree awarded on completion of any of the four year courses is *Bachelor of Science.*

The College carries on many lines of work not commonly known as "school work", though truly educative in all respects. It is the earnest desire of the management to assist in the educational work in behalf of grown people who may lack spare time to attend College. This is sought to be accomplished by sending out pointed and practical literature, by supplying well informed lecturers to popular gatherings and to meetings of farmers' and teachers' institutes or other conventions, *under conditions favorable to profitable presentation and discussion* of the subjects. The acts of Congress and the State Legislature make certain forms of this "college extension" work obligatory.

NEW STATE SCHOOLS OF AGRICULTURE

The College sustains close and important relations to the six "Secondary Agricultural Schools" provided for by the State Legislature.

All of these schools are in active operation in the five Supreme Court Judicial Districts of the State and the Panhandle counties. They are located as follows:

The Connors State School of Agriculture, Warner, Muskogee County, for the First Supreme Court Judicial District.

The Murray State School of Agriculture, Tishomingo, Johnston County, for the Second Supreme Court Judicial District.

The Haskell State School of Agriculture, Broken Arrow, Tulsa County, for the Third Supreme Court Judicial District.

The Cameron State School of Agriculture, Lawton, Comanche County, for the Fourth Supreme Court Judicial District.

The Connell State School of Agriculture, Helena, Alfalfa County, for the Fifth Supreme Court Judicial District.

The Panhandle Agricultural Institute, Goodwell, Texas County, for the Panhandle Counties.

FINANCIAL POLICY

The Agricultural and Mechanical College receives for its support four classes of funds:

1. A fund derived from the United States Government that may be used for certain grades of class instruction in the College, known as the "Morrill Fund". This fund can be expended only for instruction of students in literature, languages and sciences, and by a recent amendment to prepare school teachers in the principles of agriculture and domestic science.

2. Two United States Government funds for investigation of scientific and agricultural matters of importance to farmers and for publishing the results of such tests and experiments; known as the Hatch and Adams funds. These support the Oklahoma Agricultural Experiment Station.

3. A fund derived from the rentals of public lands donated by Congress to this College by the Enabling Act granting statehood to Oklahoma, known as the "Land Lease Fund". This fund may be used for operating expenses of the College proper

4. A fund appropriated annually or biennially by the State for buildings, repairs and extensions to the permanent equipment of the College.

The fact that all the actual expenses of the College are paid by the State and Federal Governments enables the young men and women of Oklahoma to secure an education in any one of the several divisions of the College without expense except for board, clothing and books. The College thus becomes a part of the great free school system of the State. All students attending

the College are encouraged to earn at least a part of such personal expenses as a matter of business training. The experience of recent years proves this to be a wholesome policy.

GRADUATES OF THE COLLEGE

The life of the entire student body of the College is marked by practical purpose and earnest work rarely found in any institution. Scores of graduates of the College (and many more who have pursued studies here without graduating) have gone out from the institution and now reflect credit on the system of education maintained here. These measure up to the highest standards of educated citizenship set by the oldest and largest colleges and universities in America. As scientists, as master workmen, as farmers, as agricultural experts, dairymen, electrical and civil engineers, school teachers, business men, accountants, teachers of domestic science and art, as fathers, mothers and citizens, these have added to the progress of the State and nation and have justified the hopes of their families and friends.

The chart shown in the front of this catalog will clearly indicate the present organization, purpose and field work of this institution as the head of the new state system of "applied science education" in Oklahoma.

INSTRUCTION FOR TEACHERS

This College is entering freely into the work of preparing teachers for the profession, as teachers of science, industrial subjects, and common branches.

The Constitution of Oklahoma (Art. XII Education) declares:

> "The Legislature shall provide for the teaching of agriculture, horticulture, stock feeding and domestic science in the common schools of the State".

The First State Legislature created the Chair of Agriculture for Schools in this College:

> "whose duty it shall be to direct and advise in all matters relating to the teaching of agriculture and allied subjects in the common schools, ... He shall visit the schools, the teachers'

> institutes, the summer normal schools and the State Normal Schools, advise with the teachers and officers concerned, ... and shall prepare, print and distribute such leaflets and other literature as may be helpful to teachers and pupils concerned or engaged in teaching industrial, practical and scientific subjects".

The law also states that:

> "the Agricultural and Mechanical College, its president, professors and employees shall lend such assistance in carrying out the object aims and purposes of the State Constitution regarding the teaching of agriculture and allied practical subjects as shall not conflict with the immediate duties incumbent on them in said institutions".

These constitutional and statutory requirements caused the office of the State Superintendent of Education to write the President of the College in October, 1908, "I would suggest that you put a special course in the A. & M. College to be known as the Teachers' Normal Course, . . . that you add to your course not less than a year's work in pedagogical lines, including history of education, philosophy of education, and school management.

"JOHN W. WILKINSON,
"Assistant Superintendent."

State Superintendent E. D. Cameron appeared before the Board of Regents October 6, and explained the necessity for the College rendering all assistance within its power in training efficient teachers and urged the introduction of the special course for teachers. The board authorized the faculty of the College to plan and inaugurate such a course.

Teachers Normal Course: On the recommendation of State Superintendent and in harmony with the legislative enactments, there has been established a regular collegiate course of instruction known as the Teachers' Normal Course, which affords instruction in all common school, graded and high school subjects. The present demand in this State for trained teachers in technical subjects is already very great.

Summer Normal Institute: To further supply the great demand in Oklahoma for trained teachers, the College conducts a complete summer normal institute for teachers. Members of the College faculty are available as instructors and specialists of note

are also employed to assist in making the course of greatest value.

Serious responsibilities are thus placed on this College and its faculty in the matter of *preparing and training teachers* to instruct in the great and diverse occupations of our people—Agriculture and Home Building. The work of the "Department of Agriculture for Schools" in this institution in behalf of all the teachers and schools of Oklahoma, is carried forward with vigor, assisted by experts and scientists from a number of other departments of the College.

PURPOSES

The aims of this College are not merely to train students for increased production or to double or quadruple the earning capacity of the young people who attend the College, but a distinct effort is made to train and shape them into useful citizens of the highest types. The training and knowledge thus acquired will prove a lasting power for good to the individual student and to the State in which we live.

The primary purpose of all the work done by this institution is to render the youth of Oklahoma more capable and effective; to increase vitality and to add power; to enrich the ideals of youth and to make the lives of all who come in contact with the College and its work brighter, purer, and better.

The style of education afforded here does not stop with increase in skill or the acquirement of the "three R's". It goes further and accomplishes true education, the development of the whole man—the hand, the head, the heart.

By adding "skill" the man's efficiency is increased three fold; by adding to skill education his productive power is again multiplied by at least three—a nine fold gain over the unskilled, uneducated man! Here lies the problem of higher standards of living and citizenship "for the industrial classes in the various pursuits and professions of life".

The purposes of the institution may be stated more specifically as follows:

In Agriculture: To equip young men for expert and scientific work as practical farmers, as scientific authorities and inves-

tigators, as teachers, and as valuable contributors to the advancement of scientific agriculture; in its short courses to give the maximum of scientific agricultural training and information in the minimum of time to those who cannot take a collegiate course; and in its Experiment Station work, by research and experimentation, to be a trusted guide and leader to the farmers of the State.

In Engineering: To fit young men for positions of profit, responsibility, and usefulness in the professions of mechanical, electrical, architectural, and civil engineering.

In Applied Science: To give such proficiency in one or more of the natural sciences as will enable the graduate to conduct research work on his own account, to accept positions which require expert service, and to become a reliable authority in his chosen science.

In Domestic Science and Arts: To prepare young women for the duties of home making in all its branches as specialists; to prepare teachers, matrons, etc., for the government service.

In Teachers' Normal Training: To educate and train young men and women to become expert teachers of high professional standing, having first a broad foundation consisting of the common branches and the natural sciences.

In Business Training: To prepare young men and women for acceptable service as clerks, stenographers, bookkeepers, and for other positions in the business world.

In Citizenship: So to train young men and women as definitely to fit them for service profitable to themselves and valuable to the State; to this end training the eye and the hand as well as the mind and the heart, seeking thus to realize the purpose declared by Congress, of promoting "the liberal and practical education of the industrial classes in the various pursuits and professions of life".

It must not be understood that all of the lines of instruction named above can be given to one student. A further reading of the catalog will disclose the several courses and the choices which are open to the student.

LAND AND BUILDINGS

The College campus, farm, and experiment grounds embrace a tract of 1,000 acres.

The present College buildings were erected by the State at a cost of over $200,000.00, and they are equipped with the latest and best appliances and apparatus, representing an outlay by the State and Federal Governments of approximately $175,000.00. All buildings are steam-heated, electric lighted, and have sewer connections.

The Domestic Science Hall now under construction will cost $62,000.00.

Twenty-five thousand dollars has been devoted to the erection of a dormitory hall, to be used as a home for young men.

The College has also a well selected Library of 13,000 volumes, besides some 30,000 unbound publications. All of the desirable current publications are received. Two specially fitted rooms of large dimensions are devoted to library use.

"Morrill Hall", named in honor of Senator Justin S. Morrill by an act of the Legislative Assembly providing for its construction, is the most considerable building now occupied by the College. The cost complete, with heating plant, was $75,000.00. It contains quarters for the administration and business offices of the College and Station, and suitable offices, lecture rooms, and laboratories for the departments of animal husbandry, agronomy, horticulture, and agricultural chemistry, and the chemistry laboratories of the Experiment Station. There are fireproof vaults on the first and second floors. The general dimensions of the building are 76 by 166 feet.

"Library Hall" is a brick and stone building, two stories and basement, 76 by 72 and 111 by 65 feet. It is used, in addition to the accomodation of the library and reading rooms, for the departments of zoology and veterinary science, music, physical training for girls, domestic economy, and the general auditorium —with lecture rooms, toilet rooms, etc., in the basement.

"Central Building" (the original building of the College) is a two-story brick and stone building with a basement, 66 by 60 feet.

It is now used for instruction in mathematics, English, and business courses, and contains the printing office of the College.

The "Chemistry Building" is a two-story brick structure with basement, the main portion 64 by 42, wing 54 by 32 feet. It is used solely for instruction in chemistry and for the offices of the department.

The buildings of the Engineering Department consist of a structure of brick and stone, 80 by 47 feet, two stories with basement, devoted to the class room work of the department, drawing room, reading room, and offices; the new shop building, of brick, with a two-story portion 72 by 36 feet, and a wing 180 by 40 feet, containing the class room, drawing rooms, and office of the department of civil engineering, a testing laboratory, blacksmith shop and foundry, and also the gymnasium; the old shop building, a two-story stone building, 80 by 30 feet, containing the machine shops, electrical laboratory, and the wood working shops; and the boiler house, a stone building 60 by 40 feet.

A new building with new heating plant has been provided for by the Legislature to cost $40,000.00 and will be completed during the current summer.

The "Dairy Building" is a brick structure of two stories, 60 by 30 feet, containing the class and operating rooms of the department and also the equipment for a moderate volume of commercial dairy work.

There is also a brick barn, 60 by 96 feet, a large frame barn building nearing completion, two residences, a green house, and several other structures.

NEW BUILDINGS

No better indication of the steady growth of the College could be given than by noting the growth in buildings. To the nine large structures ready for use there will soon be added the following for which appropriations are now available through the liberality of the First and Second State Legislatures.

A new domestic science hall will be completed at an early day from funds appropriated by the State Legislature, for the accommodation of young women attending this College. This is known as the Woman's Building and will cost $62,000.00. Be-

sides the necessary class rooms, sewing, cooking, and music rooms, bath rooms, and dining hall, there will be a large gymnasium, and comfortable living rooms for 80 girls. A matron will be in charge of this hall.

The Men's Dormitory contains furnished rooms for 120 young men, with necessary baths and other conveniences. The building will be open in September next.

The heating plant will cost $40,000.00. This will take the place of the present plant. A new site has been chosen and the boilers and other features will be adequate for steam heating both old and new buildings.

The animal husbandry building to be erected next fall will cost $15,000.00. In this new structure ample accommodations will be had for the study of the fine live stock owned by the College and the class work for veterinary clinics will be held here.

The new barn, now in course of construction, will cost $10,000.00. This will be used as a general barn until the dairy herd requires all of the space, and will provide shelter for the pure bred stock, machinery, seeds, etc.

The new greenhouse will cost $5,000.00 and will be completed this season. In this addition to present accommodations special class instruction will be given at all seasons with various crops grown under those conditions which afford the greatest amount of information to students of plant life.

EQUIPMENT

In chemistry, physics, mineralogy, botany, zoology, entomology, physiology, agriculture, horticulture, and veterinary science, the College is equipped with the most modern appliances and apparatus, consisting of collections, models, charts, microscopes, balances, etc. For discussion of each of these see department statements in this catalog.

REQUIREMENTS FOR ADMISSION

Monday, September 5, and Tuesday, September 6, 1910, will be devoted to the examination and classification of new students. All candidates for admission, whether by certificate or

examination, should present themselves at the President's office and report to the Committee on Entrance Monday morning at nine o'clock, or as soon thereafter as possible.

Former students of the College will apply for registration Wednesday morning, September 7, to their advisers.

Students intending to apply for admission by examination are urged to satisfy themselves, before coming to the College, that they can pass a reasonable examination in the subjects required.

Specimen examination questions are printed on the last few pages of the body matter of this catalog.

Applicants for the Short Course in Agriculture and Domestic Science, opening October 11, should present themselves for registration on that date. No entrance examinations are given to such applicants.

Students may be admitted to the College in one of three ways: (*a*) by certificate, (*b*) by examination, (*c*) by special assignment. Candidates for admission by certificate should present to the Committee on Entrance a statement from the last school attended, showing classification, grades, and the amount of work covered in each subject. Entrance examinations are chiefly written, and candidates must make a grade of 70 per cent to pass in a study. Applicants must have attained their fourteenth year.

To the Sub-Freshman Class

The Sub-Freshman Class has been established to secure, under competent instruction, a higher degree of efficiency in the studies which prepare for the more advanced collegiate work, particularly in English and mathematics. Applicants may be admitted to this class without examination on satisfactory records from the eighth grade of city schools, or on diplomas from common schools. Applicants from other schools must pass a satisfactory examination in reading, spelling, penmanship, geography, United States history, grammar, and arithmetic. (For specimen examination questions see index for page number.)

To the Freshman Class

Students who have satisfactorily completed the tenth grade of approved high schools may be admitted to the Freshman Class without examination. Other applicants must pass examination in the subjects above mentioned, and in higher arithmetic, algebra to quadratic equations, elementary rhetoric and composition, physiology, and general geography. (For speecimen examination questions see index for page number.)

To Advanced Standing

Graduates of accredited high schools may be admitted to the Sophomore Class on their diplomas without examination. Graduates and under graduates from other colleges and universities of good rank and standing will be admitted and granted such credits as their work will justify, so far as this work applies in any of the courses offered in the College.

Accredited Schools

Graduates of accredited high schools will be admitted on their diplomas without examination to the work of the Sophomore year. Those not accredited will be considered and classified at the convenience of the principals or superintendents concerned (For list of accredited schools see index for page number.)

To Special Work

Students not candidates for degrees, may take such special work as they desire, subject to the approval of the President, but no student will be permitted to take special work until he has satisfied the requirements for entrance to the Sub-Freshman Class; provided, however, that students of mature age, not candidates for degrees, may elect special studies, with the consent of the President, without being required to fulfill the entrance requirements above mentioned, if in the judgment of the heads of the departments concerned they can successfully carry the work.

Admission to Other Applicants

As stated above, holders of common school diplomas will be admitted to the Sub-Freshman Class without examination. Pu-

pils of *city schools* who can present satisfactory records from the *eighth grade* may also be admitted to this class. Pupils of city schools who have satisfactory records from the *tenth grade* may be admitted to the Freshman Class.

Pupils having no diplomas will be admitted to the *Sub-Freshman Class* by passing a satisfactory examination in reading, spelling, penmanship, geography, United States history, grammar and arithmetic.

Pupils having no diplomas will be admitted to the *Freshman Class* by passing a satisfactory examination in the subjects before mentioned and in higher arithmetic, algebra to quadratic equations, elementary rhetoric and composition, physiology, and physical geography.

Under the rules of the College, applicants failing to pass entirely satisfactory examinations in *any two* of the subjects above named may be permitted to enter the class and pursue the studies of that class on condition that the deficient subjects be taken up as "back work" and mastered during the term. The latitude thus given will permit pupils from those schools in which physiology, physical geography or some other required subjects are not taught to enter the desired classes "conditioned".

COST OF ATTENDANCE

Board and Rooms

Rooms and board for students rooming in the Woman's Building or in the Boys' Dormitory will be provided at the following rates: Furnished room (two students occupying each room) $3.00 per month, payable in advance; board including heat, lights, water, etc., $2.00 to $2.50 per week, payable monthly in advance. Application for dormitory accommodations must be made in writing and assignment will be reserved in the order of approved application. Those occupying rooms in the dormitories must furnish towels, bed linen and covers.

Rooms in the College Dormitory for Boys will be ready for use during the fall of 1910. The building contains bath rooms

and all necessary facilities, is thoroughly sanitary, will be heated by steam and lighted with electricity.

A copy of the rules governing assignment of rooms and the operation of the College Dormitories will be sent on application.

Board with room in private families can be obtained for $3.00 to $4.00 per week. Furnished rooms, $2.00 to $3.50 per month, if two occupy the room.

The College employs responsible physicians who attend all students without charge in cases of illness or injury incurred in line of duty.

Other Expenses

Tuition is free. The incidental fee is $1.50 a term. Text books will cost from $3.00 to $5.00 a term. Special students in stenography and typewriting are charged $2.00 a term for use of typewriter. A deposit of $2.00 a term is required of all students in the Sophomore class in chemistry to cover laboratory breakage. Students in mechanical drawing are required to purchase their own sets of instruments, though the College will undertake to furnish them at the cheapest rate—about ten dollars. Students taking piano or voice will be charged $2.00 per term for use of piano. The use of musical instruments supplied by the College for practice will be charged for at the rate of $1.00 per month.

The total cost of attending the regular College courses embraces the items of board, books, clothing, and minor incidental expenses of a personal character. These may be safely estimated at $136 to $172 for nine months. About 50 per cent of the students materially reduce their expenses below the figures given by working in the several departments of the College and in the city of Stillwater, and many earn all personal expenses by diligent application.

Amount Required to Begin

Those students of limited means desiring to enter the College should have some $50 available with which to bear the first items

of personal expense and make sure of some months' consecutive study. This amount is estimated for young men to include:

Board and room two months	$27.00
Books, etc.	5.00
Incidental	2.85
Military uniform, hat, shirts, coat and trousers	17.15
Personal expenses	$52.00

With such sum in hand or available the industrious student may by his own efforts secure three or four months, or even a longer period of study in the College. The same estimate will apply to young women if cost of uniform be deducted. Extravagance in all forms is discouraged. Freshmen and Sub-Freshmen boys must supply themselves with gymnasium suits costing $3.00. Girls of the Sophomore, Freshmen and Sub-Freshmen classes must supply themselves with gymnasium suits costing $6.00.

Help

Students are employed freely on the farm, for which reasonable remuneration is allowed. This, in connection with other positions about the College buildings and grounds, and such opportunities as are offered in the city, has enabled a very considerable number of students practically to make their way through the course. The rate of pay is 12½ cents per hour for work faithfully performed. Many students are thus assisted and encouraged every year—the preference being given to those whose College work is meritorious. It must not be gathered from this that the College engages to afford employment sufficient to enable every worthy young man to complete the course without other resources. With the growth of the institution has come an increased demand for this employment which it is impossible to meet in full. Yet very few students have been compelled to leave College in recent years on account of inability to secure work.

Education at Home

By this phrase, in this connection, is meant education for Oklahoma young men and women within the State of Oklahoma.

More than 1700 people studied at this College the past year. This is strong evidence of appreciation of this institution by Oklahomans. There are many reasons why the young people of the State should seek their collegiate training within its borders. The expenses, as set forth in preceding paragraphs, are very low—much lower even than in any of the immediately surrounding states, and but a fraction of the necessary cost of attending eastern institutions. The nearness to home in case of accident or sickness is to be borne in mind. The institution is supplied with the latest and most approved equipment in all lines of scientific work. Its instructors are specialitlists in their respective departments, drawn from the leading technical schools of the country. Its work is fully accredited elsewhere, whether for graduate work, or for employment in technical, industrial, educational, or Government service. There is no longer, in brief, any necessity of going beyond the limits of the State in order to secure an approved collegiate education. Moreover, if the student expects to live in Oklahoma, the acquaintance formed in his college life, of hundreds of other young men and women throughout the State will be an invaluable source both of profit and pleasure to him.

GENERAL INFORMATION

The seat of the Agricultural and Mechanical College is Stillwater, in Payne County, a "college town" of five thousand people, most beautifully and healthfully situated at an elevation of 915 feet above sea level. Stillwater citizens and students of the College enjoy the advantage of electric lights, telephones, a city water system, sewerage and a very complete system of brick walks shaded continuously by trees.

How to Reach College

Stillwater is on the Santa Fe Railroad (Arkansas City and Pauls Valley Branch). The main connections are at Guthrie, Pawnee, and Shawnee as follows, according to time tables in effect April 1, 1910:

(2) From Perry, Enid and the northwest take the Frisco, arriving at Pawnee at 10 a. m. Take the Santa Fe at 10:22 a. m. for Stillwater, arriving at 11:20 a. m.

(3) From Tulsa and the northeast take the Frisco, arriving at Pawnee at 6:05 p. m. Leave at 7:12 a. m., arriving at Stillwater at 8:06 a. m. If more convenient go via Davenport or Cushing. From the east and southeast arrive at Shawnee to take the 1:00 p. m. Santa Fe, reaching Stillwater at 3:45 p. m. This train passes through Davenport at 1:57 p. m., and through Cushing at 2:35 p. m.

(4) From the south, southwest and west, reach Oklahoma City to take the 3:45 p. m. Santa Fe northbound which makes direct connections at Guthrie for Stillwater, leaving Guthrie at 5:00 p. m. and reaching Stillwater at 7:00 p. m.

Moral Influences

Eight leading churches are represented in Stillwater and the students are encouraged to attend and participate in their services. As a matter of fact, the Sunday Schools and the young people's societies of the several churches are sustained very largely by the students from the College.

A Young Men's Christian Association and a Young Women's Christian Association are actively engaged in the numerous and beneficial lines of work characteristic of these organizations among students. These student organizations are not merely helpful to their membership but exert a wholesome influence on the moral life of the College. Social gatherings and entertainments are made to contribute to the moral welfare of the students of both sexes and these add to the address and composure of those who seek the helpful influences of this institution.

Examinations

In addition to the regular monthly tests, examinations are held in all classes at the close of each term. A student who has made a grade of ninety or more in a given subject may be excused from the term examination at the discretion of the instructor. Reports of class standing will be supplied parents or guardians six times in the course of each year.

The Honor System

All examinations and tests are conducted under the Honor System. While the examinations are always given under the supervision of an instructor, they are relieved, as far as possible, of everything that resembles watching or espionage. The student is placed upon his honor, and signs the following pledge at the end of the examination: "I hereby certify on honor that I have neither received nor given assistance on this examination". This system was established by the faculty in March, 1895, in response to a petition signed by practically the entire student body. Students known to have received or given improper aid in examinations, tests, or reviews are promptly dismissed from College.

Grades and Reports

Grades are stated by a system of letters. The term grade is the average of the *daily grade,* and the *grades made in tests,* and the final grade for the term is one-half of the *term grade* and the *final examination* grade. Reports showing the grades and standing of students are sent to parents and guardians *every six weeks.* Attention is particularly directed to these reports; they are the best indication of the work and standing of the student.

For the information of parents and others, it may be stated that the letter system of grading adopted by the College compares with the percentage system about as follows: A grade of A is practically equivalent to a percentage grade of 95-100, inclusive; a grade of B corresponds to 90-94 plus; C, to 80-89 plus; D, to 70-79 plus; E, to 50-69 plus; F, below 50. A final grade of D or better is necessary to pass in any study.

Theses

In some departments a thesis is required for graduation, and in other departments it is elective. Students intending to write theses must select the subject not later than the last week of the winter term, the subjects to be approved by the departments having charge of the work. All theses must be approved and ready to be officially typewritten not later than June 1.

Graduation Fee

A graduation fee of $5.00 is collected from each student graduating in any regular course of the College, and no student is recommended for graduation unless all fees, including that for graduation, have been paid.

Library

The use of the College library is free to all students. Every department of the College is largely represented in it, and it contains, besides, numerous reference books and the principal home and foreign periodicals. Students are permitted to consult freely, in the reading room, the reference books and periodicals, and to take to their rooms all other books under proper restrictions.

Literary and Other Societies

General literary societies are always in operation among the students, and, in addition, a number of clubs and societies have been formed by students specializing in science, engineering, pedagogy, and agriculture, for the purpose of supplementary work and investigation. The Athletic Association has charge of all local College sports, of Field Day exercises (April 22), and of the interests of the institution in the intercollegiate meets. The Oratorical Association has charge of the representation of this College in the preliminary and intercollegiate oratorical contests.

Of Interest to Girls

About one-third of the students of the Agricultural and Mechanical College are young women. All courses are open to them.

The course in Domestic Science is of the greatest practical value to young women because it is carefully arranged to give science with practice in the best possible proportion and order. This course affords a complete education in hygiene, designing, art work, cutting and fitting, plain and fancy sewing, and includes the subjects needed in a liberal education—English, history, mathematics, physical culture and a number of forms of music.

In order to meet the demand for a more general course, the "Science and Literature" course has been established. This course will be found to be especially adapted to the needs of young women desiring higher education in literature, languages, history, etc., and offering training in music, elocution, and domestic science.

Athletics, Military Drill and Discipline

The constant purpose of the College is to develop "sound minds in sound bodies" and to train the moral faculties. Clean sports and games on the field cultivate the mental and moral sides of the individual as well as the physical side, while affording needed occasions for relaxation and the repair of muscular and nerve tissue. Ball games and track athletics are encouraged by the College authorities.

The College Gymnasium for men is under the supervision of a competent physical director. The exercises in the Women's Gymnasium are directed by a trained lady instructor.

The A. & M. track team won the State championship of Oklahoma at the Oklahoma City meet in the spring of 1909, and championship of the Southwest at Austin, Texas, the same season. The team won first in Oklahoma athletics in the seasons of 1909 and 1910.

The Northeastern Interscholastic Track and Field Meet is held on the College grounds annually, to which the schools of the northern and eastern portions of Oklahoma are especially invited. Sixteen schools participated in these events the past spring.

Baseball and football are provided with suitable grounds, and tennis courts are at the disposal of students.

Military drill is given for its physical and disciplinary effects, as required by the federal law establishing this and other similar colleges. The good results of this drill are quickly noticed in the improved health and carriage and deportment of those coming under its helpful influences. Young men, especially, need such training to give the erect carriage and strong physique that marks the man of military training.

An officer of the United States Army is assigned to duty at the College as commandant of cadets. Instruction in military

science is provided for all male students and infantry drill is given in the field movements and under arms. Arms, accoutrements, and ammunition have been supplied by the Federal Government. The military discipline is mild but firm, and cultivates habits of punctuality, alertness and the sense of personal responsibility. Its good effect upon the physique and the health of the students is of added benefit to the gymnasium work heretofore given in this College.

A distinct effort is made to develop a progressive college spirit in the characters of all who attend this College. The discipline is morally sound and very systematic in its helpful influence on mind and body. As far as practicable the discipline is adapted to the varying needs of different dispositions coming under its influence.

Prizes

A prize of $15 and $10 is offered by the President for excellence in the Freshman class. The first prize was won by John B. Ford, and second prize by Edmund Wells for the session of 1909-1910. Engrossed commissions are awarded the commissioned officers of the corps, and a handsome sword is given to the captain having the best drilled company. The sword was won by Captain Fred P. Funda of Company G.

The Alumni Association offers cash prizes of $10 to athletes of the College as follows:

1. A prize of $10 to the member of the football team having the highest class standing for the entire college year.
2. A prize of $10 to the member of the men's basket ball team having the highest class standing for the entire college year.
3. A prize of $10 to the member of the girl's basket ball team having the highest class standing for the entire college year.
4. A prize of $10 to the member of the baseball team having the highest class standing for the entire college year.
5. A prize of $10 to the member of the track team having the highest class standing for the entire college year. *See note.

The Alumni Association offers a cash prize of $20 to be given to the debater winning first place in an annual debating contest between the literary societies, the awarding of same to be gov-

erned by rules formulated by the literary societies and approved by the President of the Alumni Association.

*To be eligible for athletic prizes, the student must meet the following requirements:

Be a bona fide student of the A. & M. College in good standing and carrying 18 hours or more work in the term during which he is in athletics.

Be a member of the first team and be eligible for a letter under the rules of the Athletic Association covering its presentation.

To make the highest class standing for the college year as determined by the committee of the faculty on prizes.

These prizes will be awarded during the commencement season.

The Young Men's Christian Association

The Young Men's Christian Association keeps in touch with the International Committee by sending student delegates to the conferences held annually at Ruston, Louisiana, and Oklahoma City. Classes in Bible and mission studies are conducted during the entire year by students and members of the faculty, and many young men are taking part in this work. At the beginning of every school year the New Students' Committee meets every train and assists new students in securing homes. Receptions are given by the Association as often as possible during the school year for the purpose of promoting acquaintance among the students. The Association maintains a well appointed room in Morrill Hall where the Association literature is kept and all young men are welcome for rest or study. Regular meetings are held every Sunday at 2:30 p. m., and a weekly prayer meeting is held from 7 to 7:30 every Wednesday night. These meetings, conducted by students, members of the faculty, or ministers of the city, have fostered the Christian life of the members and through them exerted a wholesome influence upon the entire student body. A secretary has been employed for the coming year who will devote his energies to upbuilding this feature of college life.

The Young Women's Christian Association

The Young Women's Christian Association stands for an all-round young woman, developed physically, mentally, morally, and spiritually. The strengthening and broadening of Christian

life is the great and chief purpose for which the Association exists, but as a means of reaching men and women, the social life of the College is used and, in fact, centers in the Y. W. C. A. and its co-worker, the Y. M. C. A.

The students carry on the work of the Association and have made it one of the best organized bodies for work in the College. It carries on systematic courses in Bible and missionary study, which are open to every girl in the College. On Sunday afternoon of each week a devotional meeting is held, and all girls are welcomed.

The Association is visited several times during the year by its State and District workers. These educated, devoted young women bring a great inspiration into the girls' lives.

One important service of the Association is the meeting of the new students at the trains and assisting them in finding homes, and arranging their schedules of study. The reception given to the new students by the two Associations is an annual event which is eagerly looked forward to by all. Another annual event given by the Young Women's Association is the May Night Carnival.

The Association has a well furnished rest room in which their meetings are held and where, at any time during the week, the girls are welcome to go for rest or study.

DIVISIONS OF INSTRUCTION

The divisions of instruction are grouped and planned to suit the natural needs and desires of the students in attendance at this institution as indicated by the experience of the College for several years past. Formerly the studies offered by the several departments of the College were grouped into "Courses of Study". As a result of recent development and change these are now known as "Divisions" and their subdivisions are termed "Courses"; thus the Engineering Division has its Electrical Engineering Course, Mechanical Engineering Course, etc.

Under the present organization the studies of the College are grouped into the following divisions:

1. Agricultural Division.
2. Engineering Division.
3. Domestic Science and Arts Division.
4. Science and Literature Division.
5. Teachers' Normal Division.
6. Business Division.

The divisions above referred to indicate a natural grouping of student work as offered in the College, but do not refer to the grouping of the departments themselves in a physical or organic sense.

Courses of Instruction

The Agricultural and Mechanical College of Oklahoma is composed of a number of regular courses of instruction, or schools of collegiate grade, designed to educate and train the young men and women of Oklahoma for the industrial and scientific pursuits relating to the many branches of agriculture, mechanic arts, and domestic science.

The regular courses of instruction are six in number:

1. In Agriculture—The Four Years' Course, the Two Years' Course, the Ten Weeks' Course, the Dairy Courses, the Cotton Grading Course, the Reading and the Farmers' Short Course.
2. In Mechanic Arts or Engineering—The Mechanical and Electrical Engineering, Architectural and the Civil Engineering Courses.
3. In Science and Literature—The Science and Literature Course.
4. In Domestic Science and Art—The Domestic Science and Arts Course.
5. In Teacher Training—The Teachers' Normal Course.
6. In Business—The Business Course.

The courses in Agriculture afford instruction to students by the following departments in the subjects named:

1. Animal husbandry: breeds of stock; stock feeding; stock judging; animal breeding.
2. Agronomy: crops; agricultural physics; farm economics; soils and fertility.

3. Horticulture: elementary horticulture; pomology; plant breeding; evolution of cultivated plants; forestry.
4. Dairying.
5. Botany: entomology; plant pathology.
6. Inorganic chemistry: theoretical chemistry; agricultural chemistry.
7. Zoology: embryology; advanced physiology; bacteriology; veterinary medicine.
8. Mathematics; physics.
9. English language and literature.
10. German.
11. General history; social and industrial history; law.
12. Public speaking.
13. Business forms.
14. Geology.
15. Pedagogy.

The Engineering Courses afford instruction to students by the following departments in the subjects named:

1. Mechanics: woodwork; foundry and pattern making; drawing; descriptive geometry; kinematics; steam boilers; blacksmith shop; machine shop; electricity; indicators; machine design; electrical engineering; stresses in framed structures; electric lighting and power; heating and ventilation; thermodynamics; design of framed structures; telegraph and telephone engineering.
2. Surveying: hydraulic engineering; irrigation engineering; roads, streets and pavements; sanitary engineering; railroad engineering; analytical and graphical methods; masonry construction.
3. Mathematics; physics.
4. Chemistry.
5. History; social science.
6. English.
7. Public speaking.
8. Business forms.

The Science and Literature Course affords instruction to young men and women by the following departments in the subjects named:

1. Elementary botany; plant pathology; anatomy and physiology of the spermatophytes; families of the spermatophytes; morphology of the spermatophytes.
2. Inorganic chemistry; theoretical chemistry; organic chemistry; physical chemistry; agricultural chemistry; industrial chemistry; mineralogy; metallurgy.
3. Zoology; histology; advanced physiology; cellular biology; embryology; bacteriology.
4. Domestic science and art.
5. The English language and literature.
6. Mathematics; physics; surveying; astronomy.
7. Horticulture; elementary agriculture; forestry.
8. History; political economy; government; sociology.
9. German; Latin.
10. Drawing; woodwork.
11. Public speaking.
12. Business forms.
13. Geology.
14. Pedagogy.

The Domestic Science and Arts Course affords instruction and practical training to students by the following departments in the subjects named:

1. Domestic Economy: cooking; sewing; hygiene; sanitation; millinery, etc.; household science; home economics; home nursing; textiles; chemistry of foods; social observances; history of costume.
2. Drawing and Art: freehand drawing; work in colors and charcoal; designing; home decoration; wood carving, etc.
3. The English language and literature.
4. History; civics.
5. Mathematics; physics; drawing; astronomy.
6. German; Latin.
7. Chemistry.
8. Music.
9. Zoology; advanced physiology; embryology; bacteriology.
10. Dairying; horticulture; forestry.
11. Botany; entomology.

12. Business forms.
13. Pedagogy.

The Teachers' Normal Course gives both study and practice teaching in the common branches and the sciences and industries by the following departments with some other elective subjects:

1. Pedagogy: history of education; methods and management; psychology; theory and practice; philosophy of education.
2. English language and literature, three years of five hours per week.
3. History of Oklahoma, the United States, England and general history two years.
4. Mathematics: arithmetic; elementary and high school algebra; geometry; trigonometry; analytical geometry; astronomy; and calculus if desired.
5. Zoology: advanced physiology; embryology; bacteriology.
6. Chemistry.
7. Music.
8. Domestic science.
9. Domestic arts.
10. Animal husbandry.
11. Horticulture.
12. Agronomy: geology; soil physics.
13. Mechanical engineering.
14. Physics.
15. Botany and entomology.

The Business Course affords instruction to young men and women by the following departments in the subjects named:

1. Business: commercial arithmetic; banking and business correspondence; rhetoric and composition; spelling and writing, and commercial law.
2. Stenography and typewriting: (including manifolding, letterpress work, typewriter dictation, etc.)

THE AGRICULTURAL DIVISION

The Courses in Agriculture are:—

The Regular Course.
Short Courses:

1. Two Years' Course in Agriculture and Domestic Science and Arts.
2. Farmers' Short Course.
3. Reading Course for Teachers.
4. Four Week's Course in Creamery Buttermaking and Creamery Management.
5. Two Week's Course in Ice Cream Making.
6. One Week's Course in Milk and Cream Testing.
7. Industrial Buttermakers' Course.
8. Cotton-Grading Course.

Departments of Instruction in the Agricultural Division are:—

1. Department of Animal Husbandry.
2. Department of Agronomy.
3. Department of Dairying.
4. Department of Horticulture and Botany.
5. Department of Short Courses.
6. Department of Agriculture for Schools.

The subjects of the Agricultural Division are taught by the following departments:

The Department of Animal Husbandry.
The Department of Agronomy.
The Department of Dairying.
The Department of Horticulture and Botany.
The Department of Zoology and Veterinary Science.
The Department of Mechanical and Electrical Engineering.
The Department of English.
The Department of German and Latin.

The Department of Mathematics and Astronomy.
The Department of Chemistry, Metallurgy, and Mineralogy.
The Department of Entomology.
The Department of Political Economy and Social Science.
The Department of Pedagogy and History.

The Division of Agriculture in the Agricultural and Mechanical College embraces two main lines—instruction and investigation. While the work of instruction comes more directly under the College and the work of investigation and experiment under the Experiment Station, and while they are distinctly separate as far as the duties of each are concerned, yet they unite and the outcome is to more than double the strength of the instruction given both to the students and the farmers of our State. To describe more clearly the field of each, it will be best in this discussion to separate, in a general way, the work of the Division of Agriculture into that relating to the College and that more specifically belonging to the Experiment Station; but it is to be remembered that the work of both is very closely associated and united on the common college ground of instruction to our students and farmers. This desirable result is further strengthened by the fact that the heads of the department in the Agricultural Division are also members of the Station staff, so that the instruction given in the College has the benefit of the investigations and experiments of the Experiment Station.

For instruction and investigation purposes, the division is equipped with excellent lecture rooms, several laboratories, and an equipment which in some lines is very complete. Where it is not as strong as we would like it to be, it is becoming possible by the liberality of the Legislature to extend its efficiency very rapidly. The farm consists of about one thousand (1,000) acres of both rolling and bottom land, affording excellent land for the care of all cultivated crops, as well as pasture land, that is in every way satisfactory. A careful selection of live stock is also a part of the equipment. An appropriation of $11,500 made available by the Second Legislature and the general government has enabled us to strengthen this feature greatly. A creamery fully equipped and being operated very successfully commercially is another valuable feature of our equipment. Two green-

houses are now a part of the equipment, and a new $5,000 greenhouse is under construction. At present the farm has a good horse and cattle barn. Another farm barn, badly needed, which will be ultimately devoted largely to dairy cattle, has been provided for by the appropriation of $10,000 by the last Legislature, and this will be made to some extent illustrative of the most sanitary modern equipment for dairy barns. Another very essential addition to our equipment will be provided for by the erection of an animal husbandry building largely for stock judging purposes at a cost of $15,000. This building will contain an ample ampitheater for showing and judging live stock under cover. A piggery, just completed, though used largely for experimental work, will enable us to take such care of our pure bred hogs as they should have to attain highest merit. With all these live stock lines and field crop features so liberally provided for we hope to have an equipment in animal husbandry, agronomy, dairying and horticulture which will add very materially to the excellence of the instruction which may be imparted to our students, and which will greatly strengthen the reliability of all experimental work to be conducted in the future.

Every effort is being made to bring the Agricultural Division of the College into close and useful relations with the agricultural interests of our State. In this connection it is gratifying to refer to the helpful relations existing between the College and the Secondary District Agricultural Schools, though these have an independent organization. Aiding further in our extension work is the "Department of Agriculture for the Public Schools". In these ways and through the issuing of bulletins to the press and the sending forth of lecturers the extension work of the College is broadening into lines that will soon become extremely useful and valuable to the rural interests of Oklahoma.

The Courses in Agriculture

The Regular Course.—The regular course, which covers four years, embraces as major studies Agronomy, Animal Husbandry, Dairying and Horticulture. The Freshman year of this course is the same as that for all other students in the College.

The Sophomore year includes intensely practical subjects relating to Agriculture. All the students in the Agricultural Division take the same work in the Sophomore year. In the Junior year the students are given some latitude, and are permitted to specialize to a slight extent in either of the major studies which have been mentioned. In the Senior year the specialization is complete.

This course has been arranged so as to enable those who complete it to farm successfully as well as to equip them to fill positions relating to the several lines in which they have specialized.

The schedule of the subjects taught in the regular course, with the hours each week assigned to each, follows:

Outline of Courses in the Agricultural Division,—Giving Subjects and Hours

FRESHMAN YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 1*a* 4	English 1*b* 4	English 1*c* 4
Mathematics 1*a* .....5 (Algebra)	Mathematics 1*b* .....5 (Algebra)	Physics 1 .....4 (2) (Ele. Physics)
Mathematics 2*a* .....4 (Plane Geometry)	Mathematics 2*b* .....4 (Plane Geometry)	Mathematics 2*c* .....5 (Solid Geometry)
History 1*a* .....4 (Ancient History)	History 1*b* .....4 (Mediaeval His.)	Public Speaking .... (4) (Vocal Expression)
Animal Hus. 1*a*..... (4) (Stock Judging)	Animal Hus. 1*b*..... (4) (Stock Judging)	Botany 1 .....3 (4) (Ele. Botany)
Drawing 1*a*..... (4) (Ele. Drawing)	Engineering 1 ..... (4) (Woodwork)	

SOPHOMORE YEAR

English 2*a* 4	English 2*b* 4	English 2*c* 4
Chemistry 1*a* .....3 (4) (Inorgan. Chem.)	Chemistry 1*b* .....3 (4) (Inorganic Chem.)	Chemistry 1*c* .....3 (4) (Inorganic Chem.)
Agronomy 1 .....4 (2) (Agri. Physics)	Agronomy 2 .....3 (4) (Soils)	Agronomy 4 .....3 (2) (Farm Crops)
Animal Hus. 2*a*.....2 (2) (Breeds)	Animal Hus. 2*b*.....2 (2) (Breeds)	Animal Hus. 2*c*.....2 (2) (Breeds)
Dairying 1 .....3 (4) (Ele. Dairying)	Agronomy 3 .....1 (2) (Grain Judging)	Entomology 1 .....1 (2) (Ele. Entomology)
	Horticulture 1 .....3 (2) (Orchard Fruits)	Horticulture 2.....4 (Veg. Gardening)

JUNIOR YEAR

Physiology 1 .....3 (4) (Advanced Phy.)	Animal Hus. 4.....4 (Feeds & Feeding)	Botany 5 .....1 (6) (Sys. Botany)
Botany 2 .....3 (4) (Plant Physiology)	Botany 4 .....2 (2) (Plant Pathology)	Animal Hus. 3*b*.....2 (2) (Prac. of Ani. Brdg.)
	Animal Hus. 3.....3 (Prin. of Breeding)	Social Science 4.....4 (Agril. Economics)
Zoology 1 .....3 (4) (General Zoology)	Chemistry 3*a* .....1 (Chem. Review)	Chemistry 3*b* .....1 (Chem. Review)
	Agronomy 5 .....3 (4) (Soil Physics) or	Chemistry 7 .....3 (4) (Organic Chem.)
	Dairying 2 .....3 (4) (Advanced Dairy.) or	
Elective 5	Vet. Medicine ..1....3 (4) (Anatomy)	Elective 5
	Elective 5	

JUNIOR ELECTIVES

German 1*a* .....4 (Beginners' Course)	German 1*b* .....4 (Beginners' Course)	German 1*c* .....4 (Beginners' Course)
English 3 .....5 (Shakespeare's Plays)	English 4*a* .....5 (18th Cent. Lit.)	English 4*b* .....5 (18th Cent. Lit.)
Social Science 2.....4 (Prin. of Pol. Econ.)	Social Science 3.....4 (4) (Ind. Combinations)	Entomology 3 (2)

SENIOR YEAR

Specialization towards Agronomy, Animal Husbandry, Dairying and Horticulture in the Agricultural Division is provided for in the Senior year; the Freshman, Sophomore and Junior years are uniform.

Course in Animal Husbandry

FALL TERM	WINTER TERM	SPRING TERM
Bacteriology 1 .....3 (4) (Gen. Bacteriology)	Vet. Medicine 3 ....3 (Materia Medica)	Vet. Medicine 4 ....2 (2) (Infec. Diseases)
Chemistry 10 .....3 (4) (Agri. Chemistry)	Animal Hus. 6.....3 (2) (Stables & Equip.)	Animal Hus. .....8 (2) (Live Stock Prod.)
Vet. Medicine 2 ....2 (Animal Parasites)	Animal Hus. 7.....4 (2) (Live Stock Man.)	College and Experiment Sta. Work....3 (4)
Animal Hus. 5.....1 (4) (Ad. Stock Judg'g)	Agri. Journalism 3	Thesis or Elective....5
Elective 5	Elective 5	Elective 5

Course in Agronomy

Bacteriology 1 .....3 (4) (Gen. Bacteriology)	Agronomy 8*a* .....4 (2) (Soil Fertility)	Agronomy 8*b* .....4 (2) (Soil Fertility)
Chemistry 10 .....3 (4) (Agri. Chemistry)	Horticulture 6 .....3 (4) (Pomology)	Horticulture 3 .....2 (2) (Forestry)
Vet. Medicine 2 ....2 (Animal Parasites)	Agronomy 7 .....2 (Seed & C. Grow.)	Agronomy 6 .....2 (2) (Crop Breeding)
Entomology 3 .....3 (2) (Econ. Ent.)	Agri. Journalism 3	College and Experiment Sta. Work....3 (4)
Elective 5	Elective 5	Elective 5

Course in Dairying

Bacteriology 1 .....3 (4) (Gen. Bacteriology)	Dairying 4 .....2 (6) (Cheese Making)	Dairying 7 .....2 (2) (Dairy Engineering)
Chemistry 10 .....3 (4) (Agri. Chemistry)	Dairying 5 .....4 (Bus. of Dairying)	Dairying 8 .....2 (4) (Sp. Dairy Prod.)
Dairying 3 .....2 (6) (Buttermaking)	Dairying 6 .....2 (Factory Man.)	College and Experiment Sta. Work....3 (4)
	Agri. Journalism.....3	Thesis or Elective....5
Elective 5	Elective 5	Elective 5

Course in Horticulture

Bacteriology 1 .....3 (4) (Gen. Bacteriology)	Agronomy 8*a* .....4 (2) (Soil Fertility)	Agronomy 8*b* 4 (2) (Soil Fertility)
Chemistry 10 .....3 (4) (Agri. Chem.)	Botany 7 .....2 (2) (Plant Breeding)	Horticulture 3 .....2 (2) (Forestry)
Horticulture 5 .....2 (2) (Fruit & V. Gr'w'g.)	Agri. Journalism 3	Horticulture 8 .....2 (2) (Land. Gard.)
Horticulture 4 .....2 (Nursery Work)	Horticulture 6 .....3 (4) (Pomology)	College & Experiment Sta. Work..3 (4)
Elective 5	Elective 5	Elective 5

SENIOR ELECTIVES

Major Agri. Subs.....5	Major Agri. Subs.....5	Major Agri. Subs.....5
Music 4	Music 4	Music 4
English 5 .....5 (Tennyson)	Bacteriology 2 .....2 (4) (Agri. Bacteriology)	Bacteriology 3 .....2 (4) (Tech. Bac.)
Social Science 1.....4 (Com. Usages)	English 6 .....5 (Romantic Move.)	English 7 .....5 (Carlyle & Ruskin)
Social Science 5.....4 (Sociology)	Social Science .....6 (Duties of Citizens'p)	Social Science 8....4 (Government)
German 2*a* .....4 (Ad. Read. Course)	Zoology 4 .....2 (4) (Embryology)	German 2*c* 4
Entomology 3 .....3 (4) (Economic Ento.)	German 2*b* .....4 (Ad. Read. Course)	Entomology 5 .....3 (2) (Scientific Entomol.)
Botany 6 .....3 (2) (Spec. Sys. Bot.)	Botany 7 or 8.....3 (2) (Plant Cytology or Gen. Morphology)	Botany 9 ....3 (4) (Gen. Morphol.)
Vet. Medicine 2 ....2 (Animal Parasites)	Entomology 4 .....2 (4) (Biolog. Entomol.)	
Pedagogy 1 .. 5 (Psychology)	Pedagogy 2 .....2 (5) (Hist. Education)	Pedagogy 3 .....3 (5) (Methods & Man.)

Department of Animal Husbandry

W. A. LINKLATER, *Professor*
.....*Associate Professor*
W. W. EVANS, *Superintendent of Farm*
W. CARTER, *Live Stock Foreman*

The Department of Animal Husbandry gives instruction in those subjects which deal with live stock production. Lectures are given in the class room in Morrill Hall, and the classes meet for practicum in the live stock judging room in the farm barn. The instruction work includes the study of the recognized market types and the more popular improved breeds of live stock. A study is made of the feeds available to the Oklahoma stock farmer, and methods of preparing and feeding these feeds to obtain the most economical results. A complete collection of samples of the various feeding stuffs has been procured and arranged for class instruction. The breeding and management of the various kinds of live stock are also made a feature of the course. The following large collection of herd books on file in the department library are available for class use in the tracing of pedigrees and the studying of special breeds, strains and families of live stock: *Beef cattle,* English Shorthorn--Coats; American Shorthorn; American Hereford; American Aberdeen Angus; American Galloway. *Dual purpose cattle,* American Red Poll; American Brown Swiss. *Dairy Cattle,* American Jersey; American Guernsey; American Holstein Friesian. *Horses,* American Clydesdale; all American Percheron; American Shire; Morgan; American Saddle Hourse; American Hackney; American Cleveland Bay; American Shetland Pony; American Trotting Register, and American Trotting Year Book. *Swine,* Ohio Standard and National Poland China; National Duroc Jersey; American Berkshire; Chester White; Ohio Improved Chester White. *Sheep,* American Shropshire; American Hampshire; American Cotswold; American Southdown; National Delaine Merino. Judging live stock by means of the use of the score card, as well as comparative stock judging, is fully emphasized. The live stock equipment affords an excellent opportunity to study the improved breeds of stock. The pure-bred stock represented are as follows: *Cattle*—Shorthorns, Herefords, Aberdeen, Angus, Red Polls, and Jerseys. *Swine*—Poland Chinas,

Berkshires, Duroc Jerseys, and Hampshires. *Sheep*—Shropshires and Dorsets. *Horses*—Percheron. In addition high class work horses and mules are used as work stock on the farm, and these, together with the animals used in Experiment Station work, are available for instruction in live stock judging. Practical instruction is given in the care, handling, and feeding of live stock, and the subjects throughout are made as practical as possible.

SUBJECTS

1 *a-b.* STOCK JUDGING.—Freshman year, fall and winter terms; two practicums per week.

A thorough training in score-card work is given. Special study is made of animal form, as an index of excellence in beef, dairy, mutton, wool and pork production, and of efficiency in labor. Careful consideration is given to the standard market classes and grades of live stock. Text, Craig: "Judging Live Stock".

2 *a-b-c.* BREEDS OF LIVE STOCK.—Sophomore year, fall, winter and spring terms; two lectures and one practicum per week.

The leading improved breeds of horses, cattle, sheep and swine are studied, as to their origin, development, adaptability and breed characteristics. The practicum work consists of score-card and comparative judging of representatives of the various breeds of stock kept on the College farm and those of nearby breeders. Prerequisites, Stock-judging. Text, Plumb: "Types and Breeds of Farm Animals".

3 *a.* PRINCIPLES OF BREEDING.—Junior year, winter term; three lectures per week.

A study of facts and problems especially important to the plant and animal breeder, including the kinds and causes of variation, the transmission of character, controlling of type, laws of correlation and heredity, and prepotency. Text, Davenport: "Principles of Breeding", parts I, II and III.

3 *b.* PRACTICE OF ANIMAL BREEDING.—Junior year, spring term; two recitations and two practicum periods per week.

The selection of breeding stock, systems of breeding, including grading, cross-breeding, line breeding and in-and-in-breeding, pedigree and herd book study with a view to becoming acquainted with methods of registration, and also with the leading strains and families of the different breeds of live stock, methods of keeping live stock breeding records, identification, etc. Prerequisites, "Principles of Breeding". Text, Davenport: "Principles of Breeding", part IV.

4. Feeds and Feeding.—Junior year, winter term; four lectures per week.

A study of the elements and compounds, of nutrition, the composition of the animal body, the processes of digestion, assimilation and elimination, and the function of the different nutrients in animal nutrition, together with the composition of feeds, the compounding of rations for different purposes and for different classes of stock, and the feeding, fattening, and breeding of dairy and work stock. Text, Henry: "Feeds and Feeding".

5. Advanced Live Stock Judging.—Senior year, fall term; one lecture and two practicums per week.

A course for advanced animal husbandry students in comparative judging of the various market types and the improved breeds of live stock. Prerequisites, Stock Judging and Breeds of Live Stock. Text, Craig: "Judging Live Stock".

6. Stables and Equipment.—Senior year, winter term; three lectures and one practicum per week.

This course embraces the study of stables and equipment especially suited for the handling of the different classes of live stock, with special reference to convenience, needs of the animals, and sanitation. Text, Sanders: "Farm Buildings".

7. Live Stock Management.—Senior year, winter term; four lectures and two practicums per week.

A study of the most practical methods of producing, feeding and marketing different classes of farm stock. Prerequisites, Principles of Breeding, Practice of Animal Breeding, and Feeds and Feeding. Texts, Johnstone: "The Horse Book"; Mumford: "Beef Production"; Gurley: "The Dairy Farm"; Wing: "Sheep Farming in America"; Deitrich: "Swine".

8. Business of Live Stock Production.—Senior year, spring term; two lectures per week.

A comparison, from the standpoint of revenue, of general stock raising with the production of special classes of stock; pure-bred stock with grade or market stock; and the special business methods applicable to each.

THE FARM

The College farm is a part of the regularly organized work of the Animal Husbandry Department.

The tract of land owned by the College embraces about a thousand acres. About eighty acres of this is given over to the

College campus and to horticultural grounds, and one hundred and fifty acres are used by the Experiment Station for cultivated plot work, making the College farm proper consist of about eight hundred acres. This acreage embraces a variety of soil, and includes both lowland and upland. The lowlands are adapted to the growing of corn, alfalfa and other crops of a similar nature, while the uplands are suitable for pasturage. Thus the whole makes a very fit equipment for the breeding and feeding of live stock. As the pasture lands lie mostly along the north side of the farm, the fences are being arranged so as to permit of a division of the cultivated lands from the pasture lands.

The purpose of the farm is to illustrate as far as possible, in the preparation of the land, the growing of crops, and the management thereof, the best agricultural practices as adapted to Oklahoma. It is intended to be helpful to the farmer who inspects it, as well as instructive to the student who may see its daily operations. Special effort is to be made to bring the student in closer touch with the farm work. It has been felt that our agricultural courses should be stronger in this regard, and it is the intention to bring the student in the Agricultural Division in much closer touch with farm work than it has been possible to do in the past. In other words, it is sought to make the farm as much a department of instruction for the student as any laboratory, or other equipment of the College wholly devoted to that purpose.

Subjects Common to All Departments of the Agricultural Division

THESIS.—Senior year, spring term.

In the regular course each student during the spring term, Senior year, may prepare a thesis on some subject of research relating to any of the problems of agronomy, animal husbandry, dairying or horticulture. The subjects must have the approval of the head of the department under whom the student is taking the major study.

AGRICULTURAL JOURNALISM.—Senior year, winter term; three lectures per week.

The presentation of this subject will have in view the bringing of the students of the Agricultural Division into closer relation with the agricultural press. The main effort will be directed towards giving to the students of the various phases of agriculture such instruction as will enable them to prepare acceptable copy on

farm topics—such instruction as will afford them an insight into the proper preparation of subjects for the agricultural press. As the College has an up-to-date printing plant, and there is being constantly prepared for the agricultural periodicals a large number of publications such as regular bulletins and press bulletins, there will be abundant material to familiarize the student with the work involved, and with its publication.

College and Experiment Station Work.—Senior year, spring term; three lectures and two practicums per week.

This is a study of the various methods of conducting the different kinds of experimental work relating to animal husbandry, agronomy, dairying and horticulture. It familiarizes the student with the organization of the experimental work in this country and enables him to become informed in reference to the actual experimental work that has been conducted in these various lines. The College work of instruction will be discussed in such a way as to present the most modern methods of teaching these various departments of agriculture and assist the student to present the topics relating to these in the most effective manner. The students will be brought into closer touch with experimental work which is under way at the Experiment Station and may be called upon to take charge of lower class work.

Department of Agronomy

A. H. Wright, *Acting Agronomsist*

The courses of instruction which are offered in Agronomy include those studies that are directly related to the production of farm crops. Agricultural physics and farm machinery form a fundamental part of the class exercises during the Sophomore year; the principles involved in the construction of tillage implements and harvesting machinery are studied not only from the standpoint of pure science, but they are also considered from a practical point of view. Other courses follow in logical order. First, the student learns to trace the effect of certain agencies like water, air, and frost on rock structure, and later he observes that the soil types which are common to a given locality are made up largely of disintegrated rock. Soils may be formed in place, or they may be made up of materials which have been transported many miles. The physical and chemical properties of the soil are features which are reviewed carefully and systematically. The course in soil physics embraces such topics as, the conservation of soil moisture; the influence of organic matter upon the storage of moisture; the importance of securing good texture or tilth; the

necessity of air to plant growth, and the influence of soil temperature in germination and growth. The course in soil fertility gives the student an opportunity to compare the productive qualities of different types of soil, and by noting the influence which is exerted through the application of materials carrying one or more of the essential plant food elements, to make definite recommendations for special soil areas. The staple crops of Oklahoma also receive due attention. In these courses a review is made of the history of each plant; its adaptations; varieties or types; methods of culture; uses and problems connected with the marketing of each product.

The department occupies several laboratories in Morrill Hall, and the instructional work which has been mentioned is given in this building. The farm machinery laboratory is equipped with up-to-date machinery, such as plows, cultivators, grain drills, mowers, binders and other respective types. An additional room is used for farm power machines, and several types of gasoline engines are available for laboratory practice. Practically all of the material which has been set up in these laboratories was loaned to the department about two years ago by several of our leading machine companies. A few new pieces will be added this year; hence the most important types of farm implements will be at the disposal of the student. The seed-testing laboratory is located in the basement of Morrill Hall, and it is provided with germinating boxes, balances, and the necessary material for testing seeds. The crop museum is located on the third floor of the building, and it contains four large cases which serve as storage space for exhibition specimens of grasses and grains. The instructional work in corn judging and seed selection is given in this room. The soil-physics laboratory which is located on the third floor is supplied with the necessary apparatus for making studies in capillary movements of soil moisture, aeration, and the mechanical composition of the soil. The field tests with different varieties of grain and forage crops which are under way on the Station farm afford excellent facilities for the study of special types together with the effect of different methods of soil culture and soil fertilization.

SUBJECTS

1. Agricultural Physics.—Sophomore year, fall term; four recitations and two practicums per week.

Principles of physics with reference to the construction of farm machinery and farm buildings are presented in this course. Practice will be given in setting up and in making a detailed investigation of the working parts of tillage implements and harvesting machines. Gasoline engines have been provided for illustrative purposes; thus the class will have an opportunity to get a working knowledge of this much-used farm-power machine. Text, King: "Physics of Agriculture".

2. Soils.—Sophomore year, winter term; three recitations and four practicums per week.

This study comprises a review of the origin of soils and the agencies which are at work in soil formation, together with a study of the physical properties of the soil; such as weight, texture, color relation to moisture, air, gases, and dissolved solids; of organic matter and its importance, more particularly with reference to the physical structure of the soil; of soil erosion and methods of preventing the same; of alkali lands and their management, of drainage and irrigation. The objects and methods of soil tillage are also considered. The class work is supplemented by laboratory exercises in the study of soil types; specific gravity of soils; hygroscopic, capillary and gravitational moisture, and absorbtive power of different types. Texts, A. D Hall: "The Soil"; Mosier: "Laboratory Manual".

3. Grain Judging.—Sophomore year, winter term; one recitation and one practicum per week.

Corn judging is one of the major features of this course; samples of cotton are also measured by the standard commonly known as the score card. While the score card cannot be taken as an absolute guide in the selection of seed for breeding purposes, at the same time the adopted method does assist in directing the attention of the student to important and minor differences in seeds. In the examination of market classes and grades of grain the student applies the rules which have been adopted by the Board of Railroad and Warehouse Commissioners for the inspection of grain at Chicago. Text, Lyon & Montgomery: "Examining and Grading Grains".

4. Farm Crops.—Sophomore year, spring term; three recitations and two practicums per week.

This course includes a study of the staple field crops of Oklahoma. The groups which are represented are: cereals, grasses, legumes, forage crops, tubers, roots, sugar plants, fiber plants, and miscellaneous crops. In making a review of the more prominent types within the several groups the following points are con-

sidered: the history of the crop, the structure and botanical relations of each plant, the classification of varieties, the improvement of varieties through selection and breeding, adaptation to special soil and climatic conditions, cultural methods, harvesting, preservation and marketing. Texts, Hunt: "The Cereals in America"; Hunt: "The Forage and Fiber Crops in America".

5. SOIL PHYSICS.—Junior year, winter term; three recitations and four practicums per week.

This is a continuation of the course designated "Soils". The physical constitution of soils, methods of making a mechanical analysis, the relation of texture to moisture-holding capacity, the percolation of water through soils, the water-holding capacity of soils. The capillary rise of moisture in soils; lateral movements of capillary moisture, the effect of mulches upon the rate of evaporation, and observations with reference to the effect of discing, harrowing, rolling, time and depth of cultivation are subjects which receive attention in this course, and they will serve to indicate the nature as well as the purpose of advanced studies in soil physics. Texts, Warington: "Physical Properties of the Soil"; McCall: "Laboratory Guide".

6. ADVANCED CROP BREEDING.—Senior year, spring term; two recitations and two practicums per week.

The history and development of plant breeding in the realm of field crops are items which are traced from the very beginning; the most approved methods, such as the centgener system or the head-row system are compared; and new avenues in this untried science are explored. The most desirable characteristics in a new plant are: (a) high yield per acre; (b) quality; (c) disease resistance; (d) drouth resistance. Text, "Reports of the American Breeders' Association".

7. BUSINESS OF SEED AND CROP GROWING.—Senior year, winter term; two recitations per week.

Crops which have come to occupy a prominent place on the Oklahoma farm are considered in turn from a commercial point of view. Indian corn, cotton, alfalfa, and the sorghums are crops of sufficient import to receive more than passing attention. The business of handling such crops must take into consideration such phases as the breeding plot, the general field selection. storage, packing for shipment, advertising. Text, Assigned readings.

8. SOIL FERTILITY.—Senior year, winter and spring terms; four recitations and two practicums per week.

This course embraces such topics as the natural fertility of the soil; the essential elements of plant production; the function of manures and fertilizers, with suggestions concerning their application, nitrogenous fertilizers, phosphates, potassic manures; lime and its uses; and miscellaneous fertilizing materials. The field

tests which have been conducted by several of the most prominent experiment stations are discussed in connection with a study of Oklahoma field trials; thus the principles that should be observed in planning soil-fertility tests and managing this phase of the practical work of the farm becomes self-evident to the student. The class exercises are supplemented by pot culture experiments in the laboratory. Texts, Voorhees: "Fertilizers"; Hall: "The Book of Rothamsted Experiments"; Hopkins: "Laboratory Manual".

9. ELEMENTARY AGRICULTURE.—Sophomore year, spring term; three lectures per week.

This is a required subject for all Normal students; and is intended to qualify them as teachers of the elementary principles of agriculture, horticulture, stock feeding, forestry and road building.

10. GEOLOGY.—Sophomore year, winter term; four lectures and one practicum per week.

This is a general course in geology offered as an elective in the Science and Literature and Normal courses.

Department of Dairy Husbandry

ROY C. POTTS, *Professor*
FRANK B. WILSON, *Assistant*
G. M. LAMBERT, *Assistant*

A separate two-story brick building (60x30) is devoted exclusively for the work of this department. The laboratories for student instruction are equipped with all modern machinery and the latest improved methods of the manufacture of dairy products are studied.

The buttermaking room (20x30) located on the first floor contains all the machinery for making butter, including pasteurizing machinery, cream coolers, cream ripening vats, starter can, combined churn and butter worker, printing table and refrigerator. This machinery has a capacity for making 3,000 pounds of creamery butter daily.

The general laboratory and commercial testing room (15x25) also located on the first floor is quipped with a 2-horse-power boiler, water heater, a 32-bottle centrifugal steam Babcock tester, also a full equipment of ice cream making machinery including a power ice crusher and a 5-gallon power ice cream freezer. Beside the machinery for Babcock testing and ice cream making just enumerated, the necessary glassware and apparatus for Bob-

cock testing also fancy and 1-quart molds for ice cream and various size packers for marketing ice cream are provided.

A 10-horse-power Fairbanks-Morse horizontal gasoline engine furnishes the power for operating the machinery. On the second floor is located the experiment station and student's laboratory (15x25) which is equipped with four hand testers also a 24-bottle steam power centrifugal Babcock tester and testing table to accommodate 16 students in testing milk and cream for butter fat, butter for moisture, and the composition and adulteration of dairy products.

A commodious lecture room seating 50 students is also on the second floor. Other equipment of the department available for student instruction consists of the following: Four outfits of farm dairy machinery consisting of barrel, box and swing churns, also roller and lever butter workers and hand butter printers which are used in the Elementary Dairy and Dairy Farming classes. Small cheese vats, hoops, presses, and necessary apparatus for making cheese are also included in the equipment of the department.

The aim of the instruction offered in this department is to fit young men for positions as operators, superintendents and managers of creameries and ice cream plants, also for positions in governmental and experimental dairy work and managers of dairy farms. The commercial, demonstration and experimental creamery conducted by the department furnishes a fine opportunity to the students for experimental investigation and practical work. Students electing work in this section of the Agricultural Division are given an opportunity during the summer vacation and at all times to secure thorough and practical training in all the phases of dairy, factory, and creamery work by directly engaging in the work and a remuneration per hour is given to those employed. Last year over 250,000 pounds of butter was manufactured in the College Creamery from the cream delivered by the farmers living in the near vicinity of the College.

SUBJECTS

1. ELEMENTARY DAIRYING.—Sophomore year, fall term; three lectures and two laboratory periods per week.

Required of all agricultural students of the College. A study of dairy farm management and the principles which apply to the production and handling of dairy products in a wholesome and economical manner on the farm, the composition of milk and cream and the conditions which affect and bring about changes in them. In the laboratory is given practical work in milk and cream testing, separating milk, ripening cream, churning, and preparing butter and milk for the market. Text, Michels: "Dairy Farming". (Lecture work, Professor Potts; laboratory, Mr. Wilson.)

2. ADVANCED DAIRYING.—Junior year, winter term; three lectures and two laboratory periods per week.

An elective for Junior students intending to specialize in dairying during the Senior year. This course consists of a series of lectures with supplemental reference and laboratory work. It includes a history of dairying in this and foreign countries; a retrospect of the dairy and creamery systems employed in the United States since 1850; a study of factory equipments, dairy machinery, dairy legislation and literature, also the composition of dairy products. The laboratory work consists of exercises in testing milk and cream, moisture tests of butter, detecting preservatives and adulterants, standardizing of milk and cream, and the analysis of butter and commercial dairy products. Laboratory book, Melick: "Dairy Laboratory Guide". (Lecture work, Professor Potts; laboratory, Mr. Wilson.)

3. BUTTERMAKING.—Senior year, fall term; two lectures and three laboratory periods per week.

A study of the principles and practice of buttermaking, including pasteurizing, starters, cream ripening, churning, salting, working, packing, judging, and marketing of butter, also equipment and operation of factories. Text, McKay & Larsen: "Principles and Practice of Buttermaking". Reference, John Michels: "Creamery Buttermaking". (Professor Potts and Mr. Wilson.)

4. CHEESE MAKING.—Senior year, winter term; two lectures and two laboratory periods per week.

A study of the care and handling of milk for cheese making, the action of pepsin, rennet, and heat on milk; the manufacture of cottage, hybrid and cheddar cheeses, with brief description of the making of other kinds, the ripening of cheese, cheese judging, and the equipment of cheese factories. Text, Decker: "Cheese Making". (Mr. Wilson.)

5. BUSINESS OF DAIRYING.—Senior year, winter term; four lectures per week.

A study of the management of dairy farms and factors influencing the economical production of dairy products. Text, Lane: "Business of Dairying". (Professor Potts.)

6. FACTORY MANAGEMENT.—Senior year, winter term; two lectures per week.

This course embraces lectures on the operation of creameries, cheese factories, ice cream and dairy plants. Special reference is made to the arrangement of machinery with a view to economizing time and labor. Various systems of simplified bookkeeping and accounting are studied, also of marketing butter both locally and in car lots. Plans for buildings and material for construction of the same are also studied in this course and thorough training in creamery bookkeeping is given. (Professor Potts.)

7. DAIRY ENGINEERING.—Senior year, spring term; two lectures and one laboratory period per week.

This course is intended to familiarize the student with all kinds of dairy machinery, as pasteurizers, churns, boilers, engines and refrigerating machinery. Their construction and principles of operation are studied in particular. Where the student has not had previous experience in the traction and stationary engineering, field work is given on Monday to familiarize the student with the principles of firing and operation of steam boilers and engines. (Mr. Wilson.)

8. SPECIAL DAIRY PRODUCTS.—Senior year, spring term; two lectures and two laboratory periods per week.

This course, as indicated, embraces a study of and practice work in the manufacture and sale of special dairy products. Those in particular which are studied are the butter substitutes, modified milk, market milk, and ice cream. The laboratory work supplements the lectures and gives the student a limited amount of experience in the preparation of such of the products as are selected for study. Extra laboratory work may be taken by the student when arranged. (Mr. Wilson.)

Department of Horticulture and Botany

O. M. Morris, *Professor*
Wm. E. Lawrence, *Assistant*

This department now occupies rooms in Morrill Hall with abundant class and laboratory room and a full equipment for laboratory and photographic work. It is equipped with a complete line of garden seeders; tools for lawn work; spray pumps; a large collection of models of common varieties of apples, peaches, plums, pears, cherries and such fruits; charts showing the diseases of fruits and garden plants; and a herbarium of cultivated plants showing most of the plants cultivated in the United States. In the way of practical operations, this department is well situated, having at its command the orchards of the Experiment Station and greenhouse facilities. The horticultural grounds include 60 acres with more than 40,000 trees and vines. For instruction in forestry, a plantation of 40,000 trees is available both for observation and for practical work in propagation, prunning, and transplanting.

The equipment of the botanical laboratory includes 24 compound microscopes of recent manufacture (5 of Zeiss and 19 of Bausch and Lomb), 4 camera lucides, a horizontal compound microscope, 22 dissecting microscopes and a number of hand lenses; hand microscopes, a rotary and a sliding microtome; several hundred microscopic slide preparations of lower plants, plant anatomy and plant pathological specimens for special study; a full line of glassware, chemicals, reagents, and stains; special apparatus for plant physiology and pathology, including ovens, clinostat, sterilizers, etc. The large herbarium includes authenic collections of algae fungi, lichens, liverworts, mosses, ferns, and seed plants and a complete set of Halsted's American weeds, one set of Kny botanical charts, a collection of woods, seeds and other preserved material for class use. Aside from this living material is drawn, as much as possible, from the greenhouses and College grounds.

SUBJECTS

HORTICULTURE

1. ORCHARD FRUITS.—Sophomore year, winter term; three lectures and two practicums per week.

   This is a study of the orchard fruits grown in Oklahoma and the best methods of cultivating and marketing them. Popular Fruit Growing—Green. (Professor Morris.)

2. GARDEN VEGETABLES AND SMALL FRUITS.—Sophomore year, spring term; four lectures per week.

   The general and specific characters of vegetables and small fruit plants are studied as a basis of the study of the methods of growing and marketing the crop. Vegetable Gardening—Green. (Professor Morris.)

3. FORESTRY.—Senior year, spring term; three lectures and one practicum per week.

   This is a study of the best trees for planting in Oklahoma for the purpose of growing fuel, fence posts, and windbreaks, and the best methods of planting and cultivating tree plantations. Text, Principles of American Forestry—Green. (Professor Morris.)

4. NURSERY WORK.—Senior year, fall term; two lectures per week.

   This is a study of the methods of propagating plants and methods of nursery management. (Professor Morris.)

5. BUSINESS OF FRUIT AND VEGETABLE GROWING.—Senior year, fall term; two lectures per week.

   This is a study of the market requirements in the line of fruits and vegetables and of the best methods of meeting those requirements. This course is based upon the practice and experience of the most successful fruit growers and truck gardeners. (Professor Morris.)

6. POMOLOGY.—Senior year, winter term; three lectures and two practicums per week.

   This is a systematic study of the varieties of orchard fruits. Material for class use is purchased in the fall and kept in cold storage until the class is ready to use it. (Professor Morris.)

7. PLANT BREEDING.—Senior year, winter term; two lectures and one practicum per week.

Study and practice of plant breeding and plant selection as it applies to horticultural plants is taught with a view of giving the student a knowledge of the best methods of plant improvement. (Professor Morris.)

8. LANDSCAPE GARDENING.—Senior year, spring term; two lectures and one practicum per week.

The fundamental principles of landscape gardening are taught and practice is given in making the plans for home grounds. (Professor Morris.)

9. GARDENING.—Junior year, spring term. Domestic Science and Arts Course. Five lectures per week.

This is a course in vegetable and landscape gardening combined. The aim is primarily to give instruction in the care of the home grounds. Text, Manual of Gardening by L. H. Bailey. (Professor Morris.)

BOTANY

1. ELEMENTARY BOTANY.—Freshman year, spring term; three lectures and two practicums per week.

A study of plant forms, mainly of the higher plants, together with the more important plant activities. Living material is used as much as possible in order that the student may gain first hand information for himself. Text, Bailey's "Elementary Text-Book of Botany". (Mr. Lawrence.)

2. PLANT HISTOLOGY AND PHYSIOLOGY.—Junior year, fall term; three lectures and two practicums per week.

The first part of the term is given over to laboratory work and lectures on plant histology. All the tissues of the plant are studied including the stem structures of ferns and seed plants. The last part of the term is devoted to laboratory experimental work in plant physiology followed by recitations and lectures. Here are included all of the chief functions of plants and the conditions affecting them, such as the influence of temperature, moisture, light, and gravitation upon growth, movement, food manufacture, and respiration. Prerequistes, Botany 1, Physics 1, Chemistry 1a-b-c. Text, Green: "Vegetable Physiology". (Mr. Lawrence.)

3. PLANT PHYSIOLOGY.—Junior or Senior year, winter term; two lectures and three practicums per week.

This is a continuation of Botany 2. Prerequisites, the same as for Botany 2, plus Botany 2. (Mr. Lawrence.)

4. PLANT PATHOLOGY.—Junior year, winter term; two lectures and one practicum per week.

The fungous diseases affecting the agricultural, horticultural, and forestral plants are studied structurally. In this connection the best methods for controlling the more common diseases are considered. Prerequisites, Botany 1, and 2. Text, Duggar: "Fungous Diseases of Plants". (Mr. Lawrence.)

5. SYSTEMATIC BOTANY.—Junior year, spring term; one lecture three practicums per week.

A study of the local plant families most important to agriculture, and the identification of species belonging to these families. Prerequisites, Botany 1. Text, Gray: "Manual of Botany," 7th edition. (Mr. Lawrence.)

6. SPECIAL SYSTEMATIC BOTANY.—Senior year, fall term; three lectures and two practicums per week.

The identification and classification of plants native to Oklahoma. Special emphasis is paid to seed plants and their classification in relation to cultivated plants. Prerequisites, Botany 1, 2, and 5. (Mr. Lawrence.)

7. PLANT CYTOLOGY (CELLULAR BOTANY).—Senior year, winter term; three lectures and two practicums per week.

This course has primarily to do with the study of the plant cell, cell division, and the phenomenon of fertilization. The student is familiarized with the methods of slide preparation from living material. Prerequisites, Botany 1, 2, 5, 8, and 9. Text, Chamberlain: "Methods in Plant Histology". (Mr. Lawrence.)

8. GENERAL MORPHOLOGY OF THE LOWER PLANTS.—Junior or Senior year, winter term; two lectures and three practicums per week.

This is a general study of the seedless plants except the ferns. Representatives of the algae, fungi, liverworts, and mosses are studied as an introduction to the evolution of vascular plants (Botany 9). Special emphasis is put on the system of fungi as a foundation for plant pathological investigation. Prerequisites, Botany 1, and 2. (Mr. Lawrence.)

9. GENERAL MORPHOLOGY OF THE VASCULAR PLANTS.—Junior or Senior year, spring term; three lectures and two practicums per week.

This is a continuance of the preceeding term's work. Emphasis is placed on the evolution of plants as shown by a study of the

reproductive organs and stem anatomy. Ferns and seed plants are the plants studied. Prerequisites, Botany 1, 2, and 8. (Mr. Lawrence.)

10. Molds and Mildews.—Junior year, fall term; three lectures and two practicums per week.

A course designed especially for domestic science students. It includes all the more common molds that occur in the household. The effects of these molds on food material, and methods of prevention are studied experimentally by the student. Prerequisites, Botany 1. Text, Conn: "Bacteria, Yeasts and Molds in the Home". (Mr. Lawrence.)

Department of Short Courses

The Short Courses offer young men and young women who feel they cannot take the time or afford the expense of taking the regular course a brief training in the more immediately practical subjects during that part of the year when they can most conveniently leave home.

The Short Courses are not considered substitutes for the regular course, but are planned to meet a demand and condition. It is hoped that many will continue their studies in the regular College Agricultural course.

The Short Courses will be found very helpful in the every day practices of the farm or home.

1. THE TWO YEARS' COURSE.

This course is arranged with the purpose of giving the most practical instruction in agriculture in the shortest possible time. It is arranged to furnish training of special value to those boys and girls, young men and young women who intend to stay on the farm. It has been planned to include a season when the farm work will permit of absence for instruction in farm topics. Applicants must be at least fifteen years of age, and fairly well advanced in the common branches. To meet the conditions of many young men and young women in the country the course is arranged to begin about October 15, when the fall work on the farm ceases to be pressing, and to close about March 15, when the services of the student are again likely to be needed at home. For the fall season of 1910 this Short Course opens October 11.

The Short Course provides thorough instruction in writing, arithmetic, English language, public speaking, music and physiology, as well as the practical subjects such as engines and boilers, carpentry, farm machinery, soils, stock judging, blacksmithing, cooking, drawing, and sewing for girls.

Outline of Subjects in the Two Years' Course

FIRST YEAR

FALL TERM			WINTER TERM		
Arithmetic	5		Arithmetic	5	
English and Writing	5		English and Writing	5	
Botany	2	(2)	Physiology	4	
Horticulture	2	(2)	Farm Accounts	2	
Farm Machinery or	2	(2)	Soils or	2	(2)
Cooking	1	(4)	Music or	2	(4)
Public Speaking or	2		Public Speaking	2	
Music	2	(4)	Blacksmithing or Sewing		(4)
Carpentry or Sewing		(4)	Hygiene	1	
Engines and Boilers		(2)	Drawing		(2)
Hygiene	1		Cooking	1	(4)

SECOND YEAR

Dairying	2	(2)	Farm Management	4	
Entomology	2	(2)	Animal Feeding and Management	5	
Live Stock, Poultry and Bees	5	(4)	Veterinary Medicine or	2	
Physical Geography	4		Cooking	1	(4)
Farm Crops or	4	(2)	Sanitation	1	
Cooking	1	(4)	Civics and Sociology	3	
Public Speaking or	2		Public Speaking or	2	
Music	2	(4)	Music	2	(4)
Sewing		(4)	Designing		(2)
Sanitation	1		Sewing		(4)

SUBJECTS IN DETAIL

ARITHMETIC.—First year, fall and winter terms; five hours per week.

A thorough study is made of common and decimal fractions, denominate numbers, percentage, interest, analysis, and practical farm problems. (Mr. Ewing.)

ENGLISH AND WRITING.—First year, fall and winter terms; five hours per week.

A practical course in English and composition, with a part of the time devoted to instruction in penmanship.

BOTANY.—First year, fall term; two lectures and one practicum per week.

A brief study of plant organs and the methods by which plants make their food, and the effect of external conditions, such as heat, light and moisture. (Mr. Lawrence.)

HORTICULTURE.—First year, fall term; two lectures and one practicum per week.

Instruction is given in the practical work of fruit growing in Oklahoma.

FARM MACHINERY.—First year, fall term; two lectures and one practicum per week.

Practical instruction is given in setting up and making a detailed investigation of the working parts of tillage implements, harvesting machines, gasoline engines, and other farm machines.

Carpentry.—First year, fall term; two practicum periods per week.

Bench work in wood; sawing, planing and joining; centering and chuckturning in wood; instruction in care and use of tools. (Mr. Skinner.)

Engines and Boilers.—First year, fall term; one practicum period per week.

A study of the working parts of steam engines, together with practical instruction in firing and operating traction engines. (Mr. Brewer.)

Public Speaking.—First and second years, fall and winter terms; two lectures per week.

The course in public speaking is designed to stimulate in the student a desire to express himself, to give him the free use of his instruments of expression,—his mind, his voice and body, to the end that he may be able to speak with ease and power in public. (Mr. Seldomridge.)

Cooking.—First year, fall and winter terms; one lecture and two practicum periods per week.

Simple dishes are prepared from materials such as those generally used in the average household. A study of foods is made from the viewpoints of cost, nutritive value and digestibility as affected by the various methods of cooking. Text, Landes: "Elementary Domestic Science". (Miss Caton.)

Hygiene.—First year, fall and winter terms; one lecture per week.

This is given in a very practical way, the endeavor being to make it comprehensible even to those who have not studied physiology. (Miss Caton.)

Sewing.—First year, fall and winter terms; two practicum periods per week.

Instruction is given in sewing models which are practical lessons in the various stitches, i. e., basting, running stitches, back stitches, etc., fell seams, hemming, patches, gathering, buttonholes, darning, and many others; and the practical application of these methods to plain undergarments to be made in class. (Miss Acheson.)

MUSIC.—First and second years, fall and winter terms; two lectures and two practicum periods per week.

Students are given opportunity to obtain instruction in theory of music, voice, piano, string and wind instruments. (Mr. Zackheim.)

PHYSIOLOGY.—First year, winter term; four lectures per week.

An elementary course in physiology and hygiene, which is intended to familiarize the student with the general function, structure, and care of the body. Text book, Peabody: "Physiology and Anatamoy". (Mr. Starin.)

FARM ACCOUNTS.—First year, winter term; two lectures per week.

A practical course in farm bookkeeping. Text book, Vye's "Farm Accounts". (Professor Coverdale.)

SOILS.—First year, winter term; two lectures and one practicum period per week.

A study of the origin and physical properties of soils, of organic matter and the importance; of soil erosion, and methods of preventing same; of alkali soil, and their management of drainage; and of proper soil tillage.

BLACKSMITHING.—First year, winter term; two practicums per week

Iron and steel forging, drawing, upsetting, welding, and tempering. (Mr. Brewer.)

DRAWING.—First year, winter term; one practicum per week.

The purpose of this course is to cultivate a taste for simple and refined surroundings, of well-chosen, inexpensive articles for dress and home; to develop good judgment of form, proportion, and a feeling for harmonious colors and combinations. Hence the work is planned to give opportunity for free personal choice by comparison, selection, arrangement and invention. The term is devoted to a study of line, arrangement, theory of color and its relations to home art. (Miss Day.)

DAIRYING.—Second year, fall term; two lectures and one practicum per week.

A course of lectures on the operation of a dairy farm, management of a dairy herd, and producing and marketing dairy products. The laboratory work consists of a study of, and the operation of cream separators, the Babcock testing of milk and cream, ripening of cream, churning, and making butter. (Mr. Wilson.)

ENTOMOLOGY.—Second year, fall term; two lectures and one practicum per week.

The course consists of a preliminary survey of the entomological field, and is formulated with the intention of giving in lecture form to the student the most local economic insect subjects possible. The practice will consist of the demonstration of appliances and methods of controlling the insect, treated by lecture. (Professor Sanborn.)

LIVE STOCK AND POULTRY.—Second year, fall term; five lectures and two practicum periods per week.

A study of the type and breeds of farm animals and poultry, together with practical work in stock judging.

PHYSICAL GEOGRAPHY.—Second year, fall term; four lectures per week.

This course is a general course in physical geography. Special study is made of those agents which affect climatic conditions, the agents causing disintegration of rock, formation of soils, etc.

FARM CROPS.—Second year, fall term; four lectures and one practicum per week.

A study of the staple field crops of Oklahoma, including the history and classification of varieties, improvement of varieties through selection and breeding, adaptation to special soil and climatic conditions, cultural methods, harvesting, preserving, and marketing.

COOKING.—Second year, fall and winter terms; one lecture and two practicums per week.

In this year the students are able to take up advanced work in cooking. Some practice is given in table service. Food production and manufacture are studied. (Miss Caton.)

SANITATION.—Second year, fall and winter terms; one lecture per week.

This subject deals with the general care of the house, cleaning and cleansing agents, ventilation, heating, lighting, disposal of waste, etc. (Miss Caton.)

SEWING.—Second year, fall and winter terms; two practicums per week.

Students will receive instructions in simple methods of drafting, cutting and fitting, and will make under the instructor's direction either a suit of undergarments, a shirt waist suit, or a plain house dress. (Miss Acheson.)

FARM MANAGEMENT.—Second year, winter term; four lectures per week.

Course of lectures on the different methods of farm management, including grain farming, improved seed production, etc.

ANIMAL FEEDING AND MANAGEMENT.—Second year, winter term; five lectures per week.

A study of the processes of digestion and nutrition, classification of feeding stuffs, compiling of rations, and the special methods of feeding and management of the different classes of farm animals.

VETERINARY MEDICINE.—Second year, winter term; two lectures per week.

This course is sometimes known as Common Diseases and Treatment. The work is given largely by lectures, although considerable reading along veterinary lines is required. The course is of an elementary but practical nature. The value of proper care as a means of preventing disease is especially emphasized in this work. Text book, Mayo: "The Diseases of Animals". (Dr. Lewis.)

CIVICS.—Second year, winter term; three lectures per week.

The aim of this course is to present the elementary facts about the forms of organization, and both the theoretical and actual methods of operation of our local, state, and national governments; to understand the fundamental requirements of good citizenship today, and the most intelligent and efficient means of meeting those requirements in the interests of true democracy. Text book, Ashley's "American Government", or Boyton "School Civics", with Abbott's "Oklahoma School Civics". (Professors Bushnell and Bowers.)

DESIGNING.—Second year, winter term; one practicum per week.

This course is advanced work to follow as a complement of the first year course in drawing, and is devoted to the study of harmonious color combination and elementary designing for applied art. (Miss Day.)

2. THE SHORT COURSE FOR FARMERS.

The Short Course for Farmers, lasting for one week, will be given at some time during the month of January. The dates and program will be announced later. For each of the last three years more than four hundred farmers of Oklahoma have attended this course.

3. THE READING COURSE FOR TEACHERS.

This course has been carefully arranged, and affords the willing student an opportunity to do systematic work in agricultural

studies at home. Experts are in charge of each of the several divisions of the course. Write for further information.

4. FOUR WEEKS' COURSE IN CREAMERY BUTTER-MAKING AND CREAMERY MANAGEMENT.

A special course in creamery buttermaking and creamery management is offered during the month of January of each year and continues for four weeks. For the year 1911 this course will open on January 3 (the first Tuesday in January). This course is designed for managers of creameries, buttermakers and persons who have had some experience in creamery work. Others of less experience who intend to take up creamery work may obtain a great deal of information from this course. The following schedule explains the course fully and the work offered:

8:00 a. m.—Text-book lesson on buttermaking.
9:00 a. m.—First two weeks: lectures on feeds, feeding, breeding, care and diseases of dairy cattle.
Second two weeks: lectures on engines, boilers and creamery machinery.
10:00 a. m.—Creamery bookkeeping and creamery accounting.
1 to 5 p. m.—Practical work in churning, testing, pasteurizing and use of the starter.

For further information regarding this course write to the Oklahoma A. & M. College, Stillwater, Oklahoma, for Bulletin No. 7, entitled "Special Courses in Dairying".
A fee of $5.00 is required of students matriculating in this course.

5. TWO WEEKS' COURSE IN ICE CREAM MAKING.

This course of two weeks, beginning January 3, 1911, is a general course in the making of ice cream, sherbets, water and fruit ices. General lectures are given on the composition of milk, receiving, sampling and testing of milk and cream, and special lectures are given on the making, packing, and marketing of ice cream factory products. Laboratory practice is also given in the forenoon in milk and cream testing and the afternoon is devoted to practical work in ice cream making. This course is extremely practical for the commercial ice cream maker. For further information regarding this course write to the Oklahoma A. & M. College, Stillwater, Oklahoma, for Bulletin No. 7 entitled "Special Courses in Dairying". A fee of $5.00 is required of students matriculating in this course.

6. SPECIAL ONE WEEK COURSES IN MILK AND CREAM TESTING.

Three special one-week courses in milk and cream testing are offered by the department in co-operation with the State Dairy Commission, the State Dairy Inspector assisting with the work. These courses are very practical, being designed for agents at cream receiving stations and persons desiring to test milk or cream in a cream station or factory. Two lectures are given

daily on the methods of sampling, testing and handling of milk and cream. Four hours is spent each day in the testing laboratory where actual experience and practice in the Babcock testing of milk and cream is obtained. Students may enter at the beginning of any of these one-week courses in milk and cream testing and for the year 1911 they will be offered during the weeks of January 3rd, January 9th and March 15th. Further information regarding these courses can be obtained by requesting a copy of Bulletin No. 7 entitled "Special Courses in Dairying" of the Oklahoma A. & M. College, Stillwater, Oklahoma. A fee of $3.00 will be required of students matriculating in any of the one-week courses in milk and cream testing.

7. INDUSTRIAL BUTTERMAKERS' COURSE.

Besides the courses previously outlined, an industrial or training course for buttermakers is offered by the department. This course is maintained throughout the entire year and is offered in conjunction with the Four Weeks' Course in Creamery Buttermaking and Creamery Management. The instruction offered in this course includes ice cream making, dairy engineering, milk and cream testing, pasteurizing, starters, buttermaking, dairy farming and creamery management. Previous experience in creamery work is not required of applicants for this course and only a limited number of students (probably 10 or 12) will be enrolled, as this number is all that the present buttermaking laboratory will accommodate. Students taking this course will be under the supervision of an expert buttermaker and they will be directed by him while doing their work. This course is an intensely practical one and persons desiring to fit themselves for positions as buttermakers, superintendents or managers of creameries and ice cream plants would do well to investigate this course. No tuition is required and as soon as students become thoroughly trained in the work they will be recommended to positions. For further information regarding this course address the Oklahoma A. & M. College, Stillwater, Oklahoma.

8. COTTON GRADING COURSE.

The purpose of this course is to supply the instruction demanded by growers, ginners, merchants, and others who are particularly anxious to secure a better knowledge of cotton grades and valuations. One of the chief aims of the course is to make prominent the fact that careless methods of planting, seed selection, gathering, ginning, and marketing must be changed, so that Oklahoma may compete with other cotton-growing regions in the economical production of a superior quality of cotton. It is recognized that there are possibilities for improvement at each stage of handling, from the preparation of the ground until the crop is sold and delivered to the consumer. The instructors who have given these subjects expert study will readily give the student the benefit of their experience, so that any one taking the course may easily become better equipped to make his business more profitable and at the same time benefit the community materially. The general plan of the course is to confine the first part of the in-

struction to the producers, covering in a general way the topics of growing and marketing, while the second portion will chiefly be devoted to the ginners and dealers, covering in a broad way the subjects of ginning and shipping. The lectures on these lines will occupy the forenoon (from 9 to 12) of each day during the whole course, and in the afternoon of each day (from 2 to 4 p. m.) cotton grading will occupy the attention of the classes. This will include instruction in the use of the score card, with the description of the various classes of cotton and their valuation. The exact schedule of the course is issued as a special pamphlet giving full details of all features of this work.

Department of Agriculture for Schools

T. M. Jeffords, *Professor*

The Constitution of Oklahoma has this clause:

> "The Legislature shall provide for the teaching of agriculture, horticulture, stock feeding, and domestic science in the common schools of the State."

In vivifying this provision of the Constitution, the Legislature provided that

> "The Agricultural and Mechanical College shall be the technical head of the Agricultural, Industrial, and Allied Science system of education in Oklahoma."

In order properly and systematically to carry out this statute the Legislature further provided that

> "There is hereby created the Chair of Agriculture for Schools, who shall be a member of the faculty of the Agricultural and Mechanical College, whose duty it shall be to direct and advise in all matters relating to the teaching of Agriculture and allied subjects in the common schools, under the supervision of the President of the Agricultural and Mechanical College."

The foregoing quotations from the Constitution and the Statutes of Oklahoma make clear the purpose of this department and the reason for its establishment. The field is a broad one. Under the law the department becomes essentially a clearing house of ideas for teaching Agriculture and allied subjects. The problems of the public schools, particularly of the rural schools, are studied first hand. Each year hundreds of teachers, superintendents, members of school boards and farmers are interviewed. Scores of teachers' and farmers' meetings are attended at which ideas on agriculture in the public schools are exchanged. Schools

are visited and the work is observed. An exchange of literature, such as bulletins and reports, is made with other schools and states. In short ideas are collected from all available sources. Then bulletins, leaflets, newspaper articles, etc., are prepared and sent to teachers and others. Lectures are given at teachers' and farmers' meetings by this and other departments of the College. The bulletins are brief, and are prepared specially for teachers. The purpose is to tell not only the essential facts, but also how the teacher without technical knowledge of the subject may present it to the pupils.

The department is supplied with a combined opaque and transparent projector lantern, and a large number and variety of views. It is thus well equipped to give illustrated lectures. Among the subjects thus treated are:

Consolidated Schools
Beautifying Home and School Grounds
Seeds and Seed Selection
Travels in Oklahoma
Insects Injurious to Oklahoma Crops

Calls for lectures can usually be supplied, and no charge is made for them. Teachers and superintendents are invited to avail themselves of the advantages offered them by this department in furnishing information for the betterment of our public schools.

Oklahoma Boys' and Girls' Agricultural Club

The Boys' and Girls' Agricultural Club has been organized by authority of the Oklahoma State Board of Agriculture, and is conducted by the Agricultural and Mechanical College. The purposes of the club are as follows:

1. To acquaint the boys and girls of Oklahoma with the State system of agricultural and industrial education, extending from the common schools through the District Agricultural Schools to the A. & M. College.

2. To vitalize the studies for children in the common schools.

3. To develop in due course a system of education in common schools suited to the children of the common people.

4. To lead men and boys to study farm problems on their own farms.

5. To lead women and girls to study home and family problems in their own homes.

6. To awaken in the minds of our people the importance, the advantages and the possibilities of farm life.

7. To inculcate a class sentiment and a sense of independence in the minds of children who come from the farm.

8. To organize in rising generations the farm community as an independent social unit.

The Boys' and Girls' Club work is a feature of the modern movement for education "back to the farm". In its broader sense it means to educate the hand, the eye and the heart, as well as the mind; to study things as well as books; to become a doer as well as a dreamer.

PLAN OF THE WORK.

The club is to supplement the work of the home and the school and to bring them in closer touch with each other.

The work in each county is managed by the Advisory Committee, consisting of the County Superintendent of Schools, the Secretary of the Farmers' Institute, and the Secretary of the Womens' Club or Auxiliary of the Farmers' Institute. A club should be organized in each school district. A charter will be issued to five or more members who make application on the regular blanks furnished by the College. Regular or occasional meetings may be held. Any boy or girl between the ages of 10 and 18 years, whether in school or not, may become a member. Any one may organize a club, but the teacher can perhaps do this best. Where no club can be organized in a community, send direct to the College for membership.

EXHIBITS.

To encourage practical application of the public school teaching in Agriculture and Domestic Science, exhibits will be held in each county. Contests will be open to all members of the club. Many valuable premiums will be offered by the local organization, farmers' institutes, county fairs, the State fair, the District Agricultural School, and the A. & M. College.

PREMIUMS FOR COUNTY EXHIBITS.

Full information concerning premiums and other matters will be printed with the constitution and plans, and copies will be mailed to all persons interested. Address all inquiries relating to this matter to the A. & M. College, Stillwater, Oklahoma.

Oklahoma Corn Club

The objects of the Corn Club are:

1. To create an active interest in the improvement of the Indian corn plant, and by this means secure a larger yield of grain per acre.

2. To induce the members of the club to plant a small area of a regular field with selected seed and thereby make provision for a better grade of seed in the immediate future.

3. To stimulate an interchange of ideas and to make an attempt to solve some of the problems which are confronting the Oklahoma grower.

4. To assemble facts concerning methods of culture and seed selection which are employed by our most successful growers and present such features as may seem desirable in a brief report which will be mailed to the entire membership.

Officers 1909-1910: President, Hon. Campbell Russell, Warner, Okla.; Vice-President, George Bishop, Cordell, Okla.; Secretary-Treasurer, L. A. Moorhouse, Stillwater, Okla.; Advisory Committee, T. M. Jeffords, Stillwater, Okla.; D. C. Paullin, Newkirk, Okla.; L. A. Moorhouse, Stillwater, Okla.

The Agricultural Experiment Station

The work of the Agricultural Experiment Station is conducting of experiments to solve the various problems arising in connection with farming in the State of Oklahoma. The endeavor is to formulate tests and experiments which are of importance to the Oklahoma farmer, and yet such as he cannot spare the time or expense to solve himself. This means extensive experimental work in feeding the various classes of live stock with the several crops peculiar to the State. It also includes extensive investigations to find out what crops may be

profitably grown, with also elaborate tests of the different varieties. This feature of the work extends, in addition, to the orchard and a vegetable garden. It is also a very important part of our work to investigate the diseases of animals as well as those observable in the field, garden and orchard. In addition, the Experiment Station is making an earnest effort to assist the dairy industry, employing a fully equipped creamery for conducting such investigations as may seem advisable. To carry on this work the Experimental Station receives two funds from the Federal Government which include $15,000, known as the "Hatch fund", and during the present year $13,000 from the "Adams fund".

ENGINEERING DIVISION

R. E. Chandler, *Professor in Charge*

The Engineering Division embraces the courses in mechanical engineering, electrical engineering, civil engineering, and architectural engineering. The division has also charge of the instruction in physics.

The subjects of the Engineering Division are taught by the following departments:

The Department of Mechanical Engineering.
The Department of Electrical Engineering.
The Department of Civil Engineering.
The Department of Architectural Engineering.
The Department of English.
The Department of Mathematics and Astronomy.
The Department of Chemistry, Metallurgy, and Mineralogy.
The Department of Political Economy and Social Science.
The Department of Pedagogy and History.

The engineering courses are intended to prepare young men for positions of usefulness and responsibility in the mechanical, civil, electrical, and architectural engineering professions.

This division now occupies three buildings: the Engineering Building, the Shop Building, and the Civil Engineering Building. In these buildings are large and well lighted class and drafting rooms, a carpenter's shop, a machine shop, a blacksmith shop, and a foundry, all well equipped with tools and machinery.

There are also the electrical laboratory, equipped with direct and alternating current machinery and an excellent assortment of instruments, a civil engineering laboratory especially equipped for testing materials of construction, a mechanical engineering laboratory fitted with apparatus for making tests on steam engines, gas engines, and fuels.

The power plant of the College with its steam boilers, steam engines and generators is also used by the division for the purpose of making tests and familiarizing the students with the use of this class of machinery.

Outline of Courses in the Engineering Division,—Giving Subjects and Hours

FRESHMAN YEAR

(Same for All Courses in this Division)

FALL TERM	WINTER TERM	SPRING TERM
English *1a* 4	English *1b* 4	English *1c* 4
Mathematics *1a* .....5 (Algebra)	Mathematics *1b* .....4 (Algebra)	Mathematics *1c* ....3 (Algebra)
Mathematics *2a* .....4 (Plane Geometry)	Mathematics *2b* .....5 (Plane Geometry)	Mathematics *2c* ....5 (Solid Geometry)
History *1a* .....4 (Ancient History)	History *1b* .....4 (Mediaeval His.)	Botany 1 .....2 (4)
Drawing *1a* ..... (4) (Ele. Drawing)	Engineering 1 (Men) ..... (4) (Wood Workirg)	Public Speaking 1.. (4) (Vocal Expression
Animal Hus. *1a* (Men) ..... (4) (Stock Judging)	Drawing *1b* (Women) ..... (4) (Object Drawirg)	Physics 1 .....4 (2) (Ele. Physics)
	Animal Hus. 1 *b* (Men) ..... (4) (Stock Judgirg)	Engineering *2* ..... (8) (Foundry)

SOPHOMORE YEAR

(Same for All Courses in this Division)

English *2a* 4	English *2b* 4	English *2c* 4
Mathematics 3 .....5 (Trigonometry)	Mathematics *4a* .....3 (Analytics)	Mathematics *4b* ....3 (Analytics)
Chemistry *1a* .....3 (4) (Inorganic Chem.)	Chemistry *1b* .....3 (4) (Inorganic Chem.)	Chemistry *1c* .....3 (4) (Inorganic Chem.)
Mech. Eng. 5..... ....3 (Mechanics)	Mech. Eng. *7a*.....4 (2) (Descriptive Geom.)	Mech. Eng. *7b*.....3 (2) (Descriptive Geom.)
Mech. Eng. *6a*..... (6) (Mech. Drawing)	Mech. Eng. *6b*..... (6) (Mech. Drawing)	Mech. Eng. *6c*..... (4) (Mech. Drawing)
		Civil Engineering *1a* (4) (Surveying)

Mechanical and Electrical Engineering

JUNIOR YEAR

FALL TERM	WINTER TERM	SPRING TERM
Physics 2 .....3 (2) (Sound and Light)	Physics 3 .....3 (2) (Elec. and Mag.)	Mathematics 6c .....4 (Calculus)
Mathematics 6a .....4 (Calculus)	Mathematics 6b .....4 (Caulculus)	Civil Eng. 10b.....4 (Applied Mech.)
Mech. Eng. 9..... (4) (Adv. Mech. Draw.)	Civil Eng. 10a.....5 (Applied Mech.)	Elec. Eng. 2b.....2 (2) (Ele. Elec. Eng.)
Elec. Eng. 1.....3 (2) (Ele. Electricity)	Elec. Eng. 2a.....2 (2) (Ele. Elec. Erg.)	Mech. Eng. 12 3 (4) (Boilers and Gears)
Mech. Eng. 8.....2 (Kinematics)	Mech. Erg. 11..... 3 (4) (Thermodynamics)	Mech. Eng. 4..... (8) (Machine Shops)
Mech. Eng. 10.....1 (4) (Steam Engines)		

Mechanical Engineering

SENIOR YEAR

Mech. Eng. 13a.....4 (4) (Machine Design)	Mech. Eng. 13b.....4 (2) (Machine Design)	Mech. Eng. 13c.....3 (4) (Machine Design)
Elec. Eng. 5a.....1 (2) (Alternating Cur.)	Elec. Eng. 5b.....2 (2) (Alternating Cur.)	Elec. Eng. 5c.....3 (2) (Alternating Cur.)
Civil Eng. 18.....3 (2) (Strength of Mater.)	Mech. Eng. 15.....4 (2) (Gas Engines)	Civil Eng. 20.....3 (Contracts & Spec.)
Mech. Erg. 14.....3 (4) (Turbines)	Mech. Eng. 16.....2 (4) (Steam Power Pl'ts.)	Mech. Eng. 18.....3 (Heat. and Ven.)
Social Science .....1 (1) (Com. Usages)	Mech. Eng. 17.....1 (Seminar)	Elec. Eng. 9.....2 (2) (Elec. Power Pl'ts)
	Thesis 4	Thesis 4

Electrical Engineering

SENIOR YEAR

Mech. Eng. 13a.....4 (4) (Machine Design)	Mech. Eng. 13b.....4 (2) (Machine Design)	Civil Eng. 20.....3 (Contracts & Spec.)
Civil Eng. 18.....3 (2) (Strength of Mater.)	Mech. Eng. 16.....2 (4) (Steam Power Pl'ts)	Elec. Eng. 8.....2 (2) (Photomoly & Ltg.)
Elec. Eng. 3.....2 (2) (Wiring and Dis.)	Elec. Eng. 6.....4 (2) (Dynamo Design)	Elec. Eng. 9.....2 (2) (Elec. Power Pl'ts)
Elec. Eng. 5a.....1 (2) (Alternating Cur.)	Elec. Eng. 5b.....2 (2) (Alternating Cur.)	Elec. Eng. 5c.....3 (2) (Alternating Cur.)
Elec. Eng. 4a.....1 (Seminar)	Elec. Eng. 4b.....1 (Seminar)	Elec. Eng. 4c.....1 (Seminar)
Social Science 1.....4 (Com. Usages)		Elec. Eng. 10.....2 (Tele. & Tele.)
		Elec. Eng. 11.....1 (2) (Wireless Tele.)
		Thesis 6

Civil Engineering

JUNIOR YEAR

Physics 2 .....3 (2) (Sound and Light)	Physics 3 .....3 (2) (Elec. and Mag.)	Civil Eng. 1a.....3 (Roads & Pave.)
Mathematics 6a .....4 (Calculus)	Mathematics 6b .....4 (Calculus)	Mathematics 6c.....4 (Calculus)
Civil Eng. 2.....2 (4) (Topo. Surveying)	Civil Eng. 4.....1 (4) (Graphics)	Civil Eng. 5..... (6) (Roof Trusses)
Civil Eng. 3.....2 (4) (Railroad Curves)	Mech. Eng. 1..... (2) (Forge Shop)	Mech. Eng. 4..... (8) (Machine Shop)
Elec. Erg. 1.....3 (2) (Ele. Electricity)	Elec. Eng. 2a.....2 (2) (Ele. Elec. Eng.)	Elec. Eng. 2b.....2 (2) (Ele. Elec. Eng.)
	Civil Eng. 10a.....5 (Applied Mechanics)	Civil Eng. 10b.....4 (Applied Mech.)

SENIOR YEAR

FALL TERM	WINTER TERM	SPRING TERM
Civil Eng. 7..... (2) (Retaining Walls and Dams)	Civil Eng. 14.....4 (4) (Masonry Con.)	Arch. Eng. 11.....3 (Estimates)
Civil Eng. 8.....2 (Irrigation Eng.)	Civil Eng. 15.....3 (Reinforced Con.)	Civil Eng. 20.....3 (Contracts & Spec.)
Civil Eng. 11.....3 (2) (Hydraulics)	Civil Eng. 16.....4 (Sanitary Eng.)	Civil Eng. 17.....4 (Water Supply)
Civil Eng. 12.....3 (4) (Bridge Stresses)	Civil Eng. 13*a*..... (8) (Bridge Design)	Civil Eng. 13*b*..... (8) (Bridge Design)
Civil Eng. 18.....3 (2) (Strength of Mater.)	Civil Eng. 19*a*.....2 (Railroad Eng.)	Civil Eng. 19*b*.....2 (Railroad Eng.)
Social Science 1.....4 (Com. Usages)	Civil Eng. 21.....1 (Seminar)	Thesis ..... (8)

Architectural Engineering

JUNIOR YEAR

Physics 2 .....3 (2) (Sound & Light)	Physics 3 .....3 (2) (Elec. & Mag.)	Arch. Eng. 4.....3 (History of Arch.)
Mathematics 6*a* .....4 (Calculus)	Mathematics 6*b*.....4 (Calculus)	Mathematics 6*c* .....4 (Calculus)
Elec. Eng. 1.....3 (2) (Ele. Electricity)	Civil Eng. 4.....1 (4) (Graphics)	Civil Eng. 5..... (6) (Roof Trusses)
Arch. Eng. 1.....3 (4) (Wood Con.)	Civil Eng. 10*a*.....5 (Applied Mech.)	Civil Eng. 10*b*.....4 (Applied Mechan.)
Arch. Eng. 2..... (6) (Working Draw.)	Arch. Eng. 3.....1 (6) (Building Plans)	Arch. Eng. 5.....1 (4) (Orders of Arch.)
		Arch. Eng. 3*b*.....1 (4) (Building Plans)

SENIOR YEAR

Civil Eng. 7..... (2) (Retaining Walls and Dams)	Civil Eng. 14.....4 (4) (Masonry Con.)	Civil Eng. 20.....3 (Contracts & Spec.)
Civil Eng. 12.....3 (4) (Bridge Stresses)	Civil Eng. 13*a*..... (8) (Bridge Design)	Civil Eng. 13*b*..... (8) (Bridge Design)
Civil Eng. 18.....3 (2) (Strength of Mater.)	Civil Eng. 15.....3 (Reinforced Con.)	Arch. Eng. 11.....3 (Estimates)
Arch. Eng. 6.....1 (6) (Arch. Details)	Arch. Eng. 8.....2 (Building Mater.)	Mech. Eng. 18.....3 (Heating and Ven.)
Arch. Eng. 7.....2 (2) (Plumbing)	Arch. Eng. 9.....1 (4) (Arch. Eng. Problems)	Arch. Eng. 10.....2 (Superintendence)
Social Science 1.....4 (Com. Usages)	Arch. Eng. 12*a*..... (4) (Thesis)	Arch. Eng. 12*b*..... (10) (Thesis)

Department of Mechanical Engineering

R. E. CHANDLER, *Professor*
C. E. SCHOENE, *Associate Professor*
E. E. BREWER, *Foreman of Shops*
C. W. SKINNER, *Instructor Wood Shop*
W. E. BARNEY, *Instructor Machine Shop*

It is the purpose of this department to train young men in a broad way for successful careers in the profession of mechanical engineering.

The early part of the course is devoted to a thorough grounding in English, mathematics and physics—mechanical drawing and shop work also being given. The last two years are devoted chiefly to the study of higher mathematics, and to technical engi-

neering studies, including: in mechanical engineering, machine design, thermodyamics, and practical operation of gas and steam engines, and heating and ventilating; in civil engineering, strength of materials, and graphics; and in electrical engineering, the theory and practical operation of motors, generators and kindred apparatus.

The facilities for instruction in mechanical engineering consist of a machine shop in which are to be found lathes, shaper, milling machine and planer, a universal grinding machine, a drill press and an extensive assortment of small tools; a wood working shop supplied with a circular saw, a band saw, wood-turning lathes, a pattern-makers' lathe, and work benches with complete sets of carpenter's tools; a blacksmith shop containing 24 down draft forges and a complete supply of anvils and blacksmith tools; a foundry with an 18-inch cupola, core oven, sand sifter, foundry benches and tools, the blast for the cupola and blacksmith forges being furnished by an electrically driven fan. In the mechanical engineering laboratory there is a 100,000-pound automatic, autographic testing machine, a 10-horse-power Alden dynamometer, a steam engine and a gas engine, steam and coal calorimeters, steam engine indicators, tcahometer, and an outfit for making tests on refrigerating plants, including indicators for ammonia compressors and ammonia gauges, etc.

SUBJECTS

1. Wood Working.—Freshman year, winter term; four hours practicum per week.

   Bench work in wood; sawing, planing and joining; center and chuck-turning in wood; instruction in care and use of tools. (Mr. Skinner.)

2. Pattern Making and Foundry.—Freshman year, spring term; eight hours practicum per week.

   Construction of patterns; moulding in sand; core making; melting iron and pouring castings. (Mr. Brewer and Mr. Skinner.)

3. Blacksmithing.—Junior year, fall term; six hours practicum per week.

   Iron and steel forging; drawing; upsetting; welding and tempering. (Mr. Brewer.)

4. MACHINE SHOP.—Junior year, spring term; eight hours practicum per week.

Filing and chipping; metal work on lathes, planer, shaper, and milling machine. (Mr. Brewer.)

5. MECHANICS.—Sophomore year, fall term; three recitations per week.

Elementary course in mechanics, including statics and kinetics. Text, Merrill's: "Elementary Mechanics". (Professor Chandler.)

6 *a-b-c*. MECHANICAL DRAWING.—Sophomore year, fall, winter and spring terms; six hours per week, fall term and winter term; four hours per week, spring term.

Fall term: lettering and use of instruments. Winter term: drawing from copy. Spring term: elementary design. No text used, but students must furnish instruments. (Associate Professor Schoene.)

7 *a-b*. DESCRIPTIVE GEOMETRY.—Sophomore year, winter and spring terms; four recitations and two drafting-room hours per week, winter term; three recitations and two drafting-room hours per week, spring term.

Orthographic projection of lines, planes and surfaces; axonometric projections, surfaces of the second order; intersections, shades and shadows, and linear perspective. Text, Church's "Descriptive Geometry". (Associate Professor Schoene.)

8. KINEMATICS.—Junior year, fall term; two recitations per week.

Study of mechanical movements, including gearing, belting, links, etc. Text, Schwamb & Merrill's "Elements of Mechanism". (Associate Professor Schoene.)

9. ADVANCED MECHANICAL DRAWING.—Junior year, fall term; four hours practicum per week.

Drafting room work in the design of gears and cams. (Associate Professor Schoene.)

10. STEAM ENGINES.—Junior year, fall term; one hour theory, chiefly lectures, and four hours practicum.

A practical course in the operation of engines and auxiliary apparatus. (Associate Professor Schoene.)

11. Thermodynamics.—Junior year, winter term; three hours theory, four hours practicum per week.

Study of the thermodynamics of steam engines, and the testing of engines, pumps, gauges, ignitors, etc. Theory, Professor Chandler; practicum, Associate Professor Schoene. Text, not selected.

12. Boilers and Gears.—Junior year, spring term; three hours theory, four hours practicum per week.

Study of boilers and valve gears. Practicum will be the design of boilers and valve gears. (Associate Professor Schoene.)

13 *a-b-c*. Machine Design.—Senior year, fall, winter and spring terms; fall term: four hours theory; four hours practicum; winter term: four hours theory; two hours practicum; spring term: three hours theory; four hours practicum.

The fall and winter terms are spent in the design of mechanical parts. Spring term—engine design. The practicum will be drafting work, design, machines and machine parts. Text, Unwin's "Machine Design". (Professor Chandler".

14. Turbines.—Senior year, fall term; three hours theory four hours practicum.

Study of steam and water turbines. Practicum will be testing and design. Text, not selected. (Associate Professor Schoene.)

15. Gas Engines.—Senior year, winter term; four hours theory, two hours practicum.

A study of gas and oil engines, and gas producers. Practicum will be the testing of gas engines. Text, not selected. (Associate Professor Schoene.)

16. Steam Power Plants.—Senior year, winter term; two hours theory and four hours practicum.

Study and design of steam power plants. (Associate Professor Schoene.)

17. Seminar.—Senior year, winter term; one hour theory.

Discussion of articles in leading technical magazines. (Associate Professor Schoene.)

18. Heating and Ventilating.—Senior year, spring term; three hours theory.

Study of steam, hot water, gravity, and forced hot air systems of heating. Text, Carpenter's "Heating and Ventilating Buildings". (Professor Chandler.)

Department of Electrical Engineering and Physics

ARLINGTON P. LITTLE, *Electrical Engineer*

The electrical engineering course aims to give the student a thorough working knowledge of the fundamental principles underlying the operation of electrical machinery. It is expected that after obtaining the proper practical experience, the graduate will be able to act successfully as a designer or manager in any of the electrical industries or to take charge of construction work. The work in electrical engineering is in large part the same as that in mechanical engineering, and during the first three years the courses in mechanical and electrical engineering are identical.

A thorough mathematical preparation is essential to the more advanced electrical courses, especially those in alternating currents. The courses on the theory of electrical machinery are supplemented by practice in calculating and designing such machines in the drawing room.

In the Junior and Senior years the work is carried on by lectures, recitations, and laboratory practice in the management and testing of electrical machinery. The lectures and recitations cover explanations of theoretical principles underlying the action of the various machines and apparatus, together with discussions of modern practice in all the important subdivisions of electrical engineering. Laboratory practice consists in performing experiments, making measurements and testing machines and apparatus, similar to the commercial testing carried on by manufacturing companies. This work includes electrical measurements, theory, design, and testing of direct and alternating current dynamos and motors, rotary converters, and transformers; storage battery, arc and incandescent lamp testing; power plant and sub-station design; long distance power transmission, and systems of power distribution; electric lighting; electric wiring; telegraph and telephone engineering; wireless telegraphy, etc.

The main electrical engineering laboratory is situated in the east wing of the shop building. The machinery has been selected and arranged in such a manner as to afford students the greatest facility for acquiring a thorough knowledge of different types of electrical machinery, their management and methods of testing. Especial attention has been devoted to alternating poly-phase ma-

chinery—justified, it is believed, by the rapid development of this branch of engineering. Power is furnished by a 40 KW and a 30 KW dynamo, directly connected to automatic engines. The other electrical machines consist of direct current series shunt and compound dynamos and motors, alternating current transformers, Scott phase-changing transformers, 2-phase and 3-phase rotary converters, single-phase, 2-phase and 3-phase induction motors, all of latest design. The laboratory is well supplied with all necessary measuring instruments, including voltmeters, ammeters, and wattmeters of wide range for alternating and direct current, tachometers, etc., as well as galvonometers and other instruments of great precision.

Two rooms are devoted to photometic and calibration work. These contain a photometer with accessories and light standards, a storage batters of 100 cells, and the principal types of arc and incandescent lamps for efficiency and light distribution tests. The following have recently been added to the equipment: the Grant flaming arc lamp; the Cooper-Hewitt mercury vapor arc lamp; and the Westinghouse metallic flame arc lamp.

The calibration room is in the basement of the Engineering Building and is equipped with a Weston standard laboratory voltmeter and a Leeds & Northrup potentiometer have an accuracy of 1-50th of one per cent. At the beginning of each year the electrical instruments are standardized by comparison with the potentiometer, in order that electrical measurements made in performing laboratory experiments may be accurate.

The laboratory in the basement of the Engineering Building is equipped with a wireless telegraph set, storage batteries, galvonometers, electroplating material, telephone and telegraph instruments, and other instruments for performing experiments in physics and electrical engineering.

The new power plant will be equipped with an additional 100 KW direct current generator; also a motor generator obtaining power from the city 3-phase lines.

The facilities of the laboratories in the Senior year are to be employed in the preparation of a graduating thesis, and original work is required of each student. For original experiments in this connection, instruments of high precision are placed at the

disposal of Senior students, and the workshops of the College afford opportunity for the construction of special apparatus.

The courses offered in physics embrace mechanics, pneumatics, hydrostatics, heat, sound, light, electricity and magnetism. The lectures and recitations are supplemented by practice work in the physics laboratory. This laboratory is located in the basement of the Engineering Building.

SUBJECTS

ELECTRICAL ENGINEERING

1. ELECTRICITY AND MAGNETISM.—Junior year, fall term; three hours theory and two hours practicum per week.

   Laws of static electricity; electrostatic induction; generators; Ohms law; resistances; battereies; magnets; electrical measuring instruments; electroplating. Text, Thompson's " Electricity and Magnetism". Laboratory manual, Sabine's "A Laboratory Course in Physics". (Associate Professor Little.)

2 *a-b*. ELEMENTS OF ELECTRICAL ENGINEERING.—Junior year, winter and spring terms; two hours theory and two hours practicum per week.

   Electro-magnetic system of units; switchboards; storage batteries; theory and practical management of direct current dynamos and motors. Prerequisite, E. E. I. Text, Franklin & Esty's "Elements of Electrical Engineering". (Associate Professor Little.)

3. ELECTRIC WIRING AND DISTRIBUTION OF POWER.—Senior year, fall term; two hours theory and two hours practicum per week.

   National Electrical Code; systems of direct and alternating current; distribution of power; testing; high tension single and polyphase systems; practical lighting and motor wiring. Lectures. Practicum reference, "National Electrical Code". (Associate Professor Little.)

4 *a-b-c*. SEMINAR.—Senior year, fall, winter and spring terms; one hour per week.

   Discussion of leading articles on electrical engineering in technical magazines. (Associate Professor Little.)

5 *a-b-c.* Alternating Currents and Alternating Current Machinery.—Senior year, fall, winter and spring terms; in fall term, one hour theory; in winter term, two theory; and in spring term three hours theory per week. Two hours practicum each week throughout the year.

Theory of alternating currents and alternating current machinery; measuring instruments; commercial testing of alternators; alternating current motors and transformers. Prerequisites, "Electrical Engineering 2". Text, Sheldon, Mason & Hausman's "Alternating Current and Alternating Current Machinery". Laboratory manual, Sever & Townsend's "Laboratory and Factory Tests in Electrical Engineering". (Professor Chandler and Associate Professor Little.)

6. Dynamo Design.—Senior year, winter term; four hours theory, two hours practicum per week.

Design of direct current generators and motors and their controlling devices, and comparison of results with commercial machinery of same rating. Prerequisites, E. E. 11. Text, Thompson's "Dynamo Design". (Associate Professor Little.)

7. Electric Railways.—Senior year, winter term; three hours per week theory.

Direct and alternating current railway systems; overhead construction; rotary converters; transformer sub-stations; electrification of steam roads; train performance diagrams. Lectures. Foster and Standard "Electrical Engineers' Pocketbooks" as reference. (Associate Professor Little.)

8. Photometry and Electric Lighting.—Senior year, spring term; two hours theory and two hours practicum per week.

The underlying principles of illuminating engineering; study and test of arc and incandescent lamps; practice in laying out wiring plans for buildings; specifications covering these plans. Text, Crocker's "Electric Lighting". (Associate Professor Little.)

9. Power Plant Design.—Senior year, spring term; two hours theory, two hours drawing each week.

Design of alternating current and direct current isolated power plants and central stations. Prerequisites, E. E. 2 and E. E. 5 (two terms). Text, Weingrein's "Electric Power Plants". (Associate Professor Little.)

10. Telegraph and Telephone Engineering.—Senior year, spring term; two hours theory per week.

A study of the principal telephone and telegraph systems; relays; repeaters; duplex and quadruplex telegraph; high speed teleg-

raphy: writing and printing telegraph. Prerequisite, E. E. I. Foster and Standard "Electrical Engineers' Pocketbooks". (Associate Professor Little.)

11. WIRELESS TELEGRAPHY.—Senior year, spring term; one hour theory and two hours practicum per week.

A study of the various systems of wireless telegraphy, plain and sytonic; erecting stations; adjusting apparatus and sending and receiving signals. Prerequisite, E. E. I. (Associate Professor Little.)

PHYSICS

1. ELEMENTARY PHYSICS.—Freshman year, spring term; four hours theory and two hours laboratory practice per week.

Force, work, power, energy; simple machines; properties of solids, liquids and gases; absolute and gravitational units; composition and resolution of forces; specific gravity; measurement of temperature; fusion; vaporization; specific heat; conduction, convection and radiation. Text, Cooley's "Student's Manual of Physics". (Associate Professor Little.)

2. SOUND AND LIGHT.—Junior year, fall term; three hours theory and two hours laboratory practice per week.

Sound waves, simple and complex, transmission and reflection of sound; resonance; musical sound waves; transverse and longitudinal vibrations; pitch and quality; interference. Light waves; photometry; velocity of light; reflection; refraction; mirrors; plane, convex and concave; lenses; construction and theory of the telescope, microscope, and other optical instruments; the spectroscope and spectrum analysis; polarization of light. (Associate Professor Little.)

3. ELECTRICITY AND MAGNETISM.—Junior year, winter term; three hours theory and two hours laboratory practice.

Electric attraction and repulsion; the electroscope; induction; condensers; capacity; primary and secondary batteries; Ohms law; calculation of resistance; electrical measuring instruments; electrolysis; electromotive force and current; wheatstone bridge. Natural and artificial magnets; fields of force; the compass; electro-magnets; the telegraph and telephone. (Associate Professor Little.)

Department of Civil Engineering

E. E. KING, *Civil Engineer*

The work in this department is designed to furnish a thorough course of theoretical instruction, accompanied by practice in the various lines of civil engineering. The work as outlined is iden-

tical with that of the mechanical and electrical engineering departments during the first two years of the course.

The department possesses ample facilities for ordinary, topographic, and railroad surveying. The equipment consists of various standard makes of engineers' transits, solar attachments, mining transits, a railroad compass, plane table, engineers' wye and dumpy levels, barometer, hand levels, clinometer, chains, tapes and rods. A 200-foot steel tape standardized by the U. S. Government is used for accurate base line work and for correcting steel tapes.

The cement laboratory is located in the Civil Engineering Building, and is well equipped for instruction in all lines of cement testing, supplementary to the class room work in masonry construction. It is furnished with a Fairbanks 1,000-pound briquette testing machine, an Olsen 1,000-pound briquette testing machine, moulds for making briquettes, sieves for sand and cement testing, moist closets, Vicat needle, tanks, Gillmore needles, specific gravity and boiling apparatus. In connection with theoretical work in strength of materials, considerable time is spent in the laboratory making tests of concrete beams and arches—plain and reinforced, brick, timber, and stone, with the 100,000-pound Riehle testing machine.

The department also possesses a large collection of working drawings that are available to the student for reference work in designing. Among these are railroad maps, profiles, detail plans of roofs, steel and concrete bridges, sewer and water supply systems.

Laboratory instruction in hydraulics consists of measurements of flow of water through orifices and pipes and over weirs. Field practice consists of measurements of flow of water by use of weirs, current meters, and floats.

SUBJECTS

1. Surveying.—Sophomore year, spring term; four field hours per week.

   Theory, use, and adjustment of instruments; field work, computations and reports, maps and profiles, U. S. land surveying, court decisions, and deeds. Text, Pence & Ketchum's "Surveying Manual". (Associate Professor King.)

2. TOPOGRAPHIC SURVEYING.—Junior year, fall term; two recitations and four field hours per week.

Theory of plane table and stadia; different methods of making topographic surveys; use of the barometer and base line apparatus; a complete survey and topographic map, based on a system of triangulation, is made by plane table and stadia methods; topographic signs. Texts, Breed & Hasmer's "The Principles and Practice of Surveying", Vol. I and II; and Pence & Ketchum's "Surveying Manual". (Associate Professor King.)

3. RAILROAD CURVES.—Junior year, fall term; two recitations and four field hours per week.

The geometry of the simple, compound, reverse, and transition curve is considered; turn-outs; computation of earthwork; field practice in laying out curves. A complete survey is made of a short line of railroad; maps and profiles are made in the office, and cost computed. Text, Allen's "Railroad Curves and Earthwork". (Associate Professor King.)

4. GRAPHICS.—Junior year, winter term; one recitation and four drafting-room hours per week.

Elements of statics by graphical methods. Stresses in roof trusses due to dead and wind loads. Text, Ketchum's "Steel Mill Buildings". (Associate Professor King.)

5. ROOF TRUSSES.—Junior year, spring term; six drafting-room hours per week.

Stresses by algebraic methods. A complete design is made of a wooden and steel roof truss. Text, Howe's "Design of Simple Roof Trusses in Wood and Steel". (Associate Professor King.)

6. ROADS AND PAVEMENTS.—Junior year, spring term; three recitations per week.

A study of the best methods of construction and maintenance of different types of country roads and city pavements, including allowable grades, drainage and methods of assessment; "Good Roads" movement. Text, Baker's "Roads and Pavements" (Associate Professor King.)

7. RETAINING WALLS AND DAMS.—Senior year, fall term; two drafting-room hours per week.

Earth and water pressure; stability of walls and dams; designs of gravity walls and foundations. Text, Howe's "Retaining Walls for Earth". (Associate Professor King.)

8. IRRIGATION ENGINEERING.—Senior year, fall term; two recitations per week.

Grades, cross-sections, and capacity of canals; surveys and designs of sturctures; sources of water supply; analysis of hydro-

graphic data; Oklahoma streams; return and seepage water; application to crops; irrigation by pumping; irrigation law. Text, Wilson's "Irrigation Engineering". (Associate Professor King.)

9. MECHANICS.—Sophomore year, fall term; three recitations per week.

Elementary course in mechanics, including statics and kinetics. Text, Merrill's "Elementary Mechanics". (Professor Chandler.)

10 *a-b*. APPLIED MECHANICS.—Junior year, winter and spring terms; five recitations per week winter term, and four recitations per week spring term.

Center of gravity; moment of inertia; theory of structures; friction; cables; work and energy; impact; motion. Text, Hancock's "Applied Mechanics for Engineers". (Associate Professor King.)

11. HYDRAULICS.—Senior year, fall term; three recitations and two laboratory hours per week.

Pressure and motion of water; laws of flow over weirs, through orifices, tubes, nozzles, pipes, conduits, canals and rivers; meters and measurements of discharge; motors, turbines and water wheels. Text, Merriman's "Hydraulics". (Associate Professor King.)

12. BRIDGE STRESSES.—Senior year, fall term; three recitations and four drafting-room hours per week.

Stresses analytically and graphically in different types of bridges. Uniform and wheel loads; design of abutments and piers; stresses in small concrete arches and culverts. Text, Ketchum's "Design of Highway Bridges". (Associate Professor King.)

13 *a-b*. BRIDGE DESIGN.—Senior year, winter and spring terms; eight drafting-room hours per week.

A complete design, with detailed drawings, is made of a plate girder bridge, a railroad bridge, and a short span reinforced concrete arch. Texts, Cain's "Concrete Arches"; Morris' "Steel Structures". (Associate Professor King.)

14. MASONRY CONSTRUCTION.—Senior year, winter term; four recitations and four laboratory hours per week.

Materials of construction, including cement, concrete, brick and stone; fireproofing. Ordinary and deep foundations. Laboratory work is devoted to cement testing. Texts, Kidder's "Building Construction and Superintendence", part I, and Waterbury's "Cement Laboratory Manual". (Associate Professor King.)

15. REINFORCED CONCRETE.—Senior year, winter term; three recitations per week.

Theory and method of design of walls, floors, beams, and columns of reinforced concrete. Elastic theory of the concrete arch. Texts, Ketchum's "Design of Highway Bridges"; Kidder's "Building Construction and Superintendence", part I, and Cain's "Concrete Arches". (Associate Professor King.)

16. SANITARY ENGINEERING.—Senior year, winter term; four recitations per week.

The design and construction of sewerage systems: separate and combined systems; size of sewers; plans and estimates of cost; construction; modern methods of sewage disposal. Text, Folwell's "Sewerage". (Associate Professor King.)

17. WATER SUPPLY.—Senior year, spring term; four recitations per week.

Sources of supply: methods of furnishing, purifying and distributing; design of reservoirs, tanks and standpipes. Text, Turneaure & Russell's "Public Water Supplies". (Associate Professor King.)

18. STRENGTH OF MATERIALS.—Senior year, fall term; three recitations and two laboratory hours per week.

Strength and deflection of beams, girders, and columns; riveting; torsion; strength of pipe. Text, Green's "Structural Mechanics". (Associate Professor King.)

19 *a-b*. RAILROAD ENGINEERING.—Senior year, winter and spring terms; two recitations per week.

Methods of construction and maintenance of roadbed and structures: surveys and estimates; organization; signalling; economic theory as applied to location and operation. Text, Raymond's "Elements of Railroad Engineering". (Associate Professor King')

20. CONTRACTS AND SPECIFICATIONS.—Senior year, spring term; three recitations per week.

The law of contracts as applied to engineering practice; the technical features of specifications; relation of engineer and contractor. Text, Johnson's "Contracts and Specifications". (Associate Professor King.)

21. CIVIL ENGINEERING SEMINAR.—Senior year, winter term; one hour per week.

Readings and reports on current civil engineering subjects, as discussed in technical magazines. (Associate Professor King.)

Department of Architectural Engineering

W. A. ETHERTON, *Professor*

On account of the demand for instruction in architectural engineering this department has been established.

A large part of the work given in the other engineering courses applies directly to architectural engineering; this is especially true of the work in the civil engineering course.

All the equipment of the other engineering departments can be used for instruction in architectural engineering. In the woodshop,—students in this department will learn the principles of carpentry. The electrical engineering laboratory will afford practical instruction in the electrical wiring and lighting of buildings. In the mechanical engineering laboratory investigations on the heating and ventilating of buildings will be made. The testing laboratory will be used to give instruction in the methods of testing and determining the strength of cements, mortars, brick, stone and other building materials.

During the Freshman and Sophomore year the course is identical with the other engineering courses. Students in architectural engineering will take up the special work pertaining to architecture during the Junior and Senior year.

SUBJECTS

1. WOOD CONSTRUCTION.—Junior year, fall term; three hours theory and four hours practicum per week.

   Attention is given to the properties and adaptabilities of the various woods used in building construction; to the grading and inspection of lumber and to modern methods of framing and joinery. Text, Kidder's "Building Construction and Superintendence", part II.

2. WORKING DRAWINGS.—Junior year, fall term; six hours per week.

   This subject comprises a study in detail of working drawings from the offices of the most reputable architects in the country, and a practical application of the principles and methods of architectural drafting, derived from these drawings, and from books and plates in the Architectural Library. This subject is especially valuable to prospective building superintendents and foremen.

3 *a-b*. BUILDING PLANS.—Junior year, winter and spring terms; in the winter term, one hour theory and six hours practicum per week; in the spring term, one hour theory and four hours practicum.

A study of the principles of planning and their application to simple problems. Plans will be made of residences, school buildings, churches, etc. Prerequisite, A. E. 1 and 2.

4. HISTORY OF ARCHITECTURE.—Junior year, spring term; three hours per week.

A study of the important historical styles of architecture, the elementary forms of design and systems of construction. Typical examples of each style will be studied in detail. Text, Hamlin's "History of Architecture".

5. ORDERS OF ARCHITECTURE AND PERSPECTIVE.—Junior year, spring term; one hour theory and four hours practicum.

A detailed study of the five orders of architecture, and their relative proportions is made contemporaneously with A. E. 4, in which the student learns of the origin, development and the use of the orders in the various styles of architecture. The principles of perspective and their application to simple problems as given here will enable the student to continue successfully a study of the subject without the assistance of an instructor.

6. ARCHITECTURAL DETAILS.—Senior year, fall term; one hour theory and six hours practicum.

Subsequent to the preparation of general plans for buildings, details for all construction work should be made, and the student here prepares scale drawings for cornices, window and door frames, stairs, inside trim, cases, etc.

7. PLUMBING.—Senior year, fall term; two hours theory and two hours practicum per week.

A study of water supply to buildings and the removal of soil and waste; pipe construction; traps; plumbing fixtures; ventilation, etc. Text, Cosgrove's "Principles and Practice of Plumbing".

8. BUILDING MATERIALS.—Senior year, fall term; two recitations per week.

A detailed study of all building materials not included in masonry and wood construction. Ornamental iron and sheet metal work; plastering; metal lath and corner beads; tiling and mosaic; composition flooring; glass and glazing; roofing; insulating and sound-deadening materials; paints; building hardware; elevators, etc.

9. ARCHITECTURAL ENGINEERING PROBLEMS.—Senior year, winter term; five recitations per week.

Advanced graphics and roofs and special problems in wood, steel and cast iron framing and in foundations. Text, Tucker's "Steel Construction".

10. SUPERINTENDENCE.—Senior year, spring term; two recitations per week.

The duties and power of the architect as superintendent. The obstacles with which he has to contend, and the best methods of handling them. The importance and necessiay of complete and properly prepared plans and specifications to effective supervision.

11. ESTIMATES.—Senior year, spring term; three recitations per week.

Practical problems in the various methods of estimating quantities and cost of materials. Methods of approximate estimates by volume and by floor areas, and of detailed estimates of all materials and labor.

12 *a-b*. THESIS.—Senior year, winer and spring terms; four hours per week practicum in the winter term, and ten hours in spring term.

The student prepares for his thesis complete plans for the structural work of a steel or reinforced concrete, fireproof office or commercial building.

13. ARCHITECTURE.—Senior year, fall term; one hour theory and two hours practicum per week.

This work for the Domestic Science Department comprises a series of lectures on home buildings intended to direct the attention of the student to the essentials of good planning, designing, decorating, sanitation, and equipment of the modern residence; to create a rational criticism of home and landscape architecture and to awaken an interest in these subjects for future study. Two hours practicum per week will be devoted to the practical solution of elementary problems,

DOMESTIC SCIENCE AND ARTS DIVISION

The course in Domestic Science and Arts for 1910-11 is much more comprehensive than heretofore.

An entire floor of the new Woman's Building will be set aside for the work in Domestic Science and Arts. The space at command comprises two large sewing rooms, a cutting and fitting room, a kitchen laboratory, practice dining room, demonstration lecture and recitation room, and a studio, besides offices, lockers, etc.

The courses offered in domestic science and arts are as follows:

1. The regular four years' course, leading to the degree of Bachelor of Science.

2. A course in connection with the Teachers' Normal Division. It is intended chiefly for those needing a general elementary knowledge of domestic science and arts for use in connection with the teaching of the common school branches. This occupies four hours weekly during two terms of the Sophomore year.

3. A two years' course in connection with the Short Course in Agriculture. Simple work is given in sewing, cooking, hygiene, sanitation, house-furnishing, etc. This course is adapted to the needs of those who wish to apply the knowledge gained to the solving of problems met in their own housekeeping.

5. Special courses in domestic science or in domestic arts, or in the fine arts, are arranged, by permission of the President, for students of mature years who carry sufficient work to denote earnestness of purpose.

The subjects of the Domestic Science and Arts Division are taught by the following departments:

The Department of Domestic Science.
The Department of Domestic Arts.
The Department of Drawing.
The Department of Zoology and Veterinary Science.

The Department of Mechanical and Electrical Engineering.
The Department of Horticulture and Botany.
The Department of English.
The Department of German and Latin.
The Department of Mathematics and Astronomy.
The Department of Chemistry, Metallurgy, and Mineralogy.
The Department of Entomology.
The Department of Pedagogy and History.

Outline of Courses in the Domestic Science and Arts Division, Giving Subjects and Hours

The figure and letter, following the departmental name, signify the serial number of the subject and indicate the first (*a*), second (*b*), or third (*c*) term's work in the same subject. The name in parentheses is the specific name of the subject, and the figures in column at the right of the name indicate the number of hours per week the subject is taught, classroom hours without parentheses, practicum hours in parentheses. The practicum period is two hours in length, and is equivalent to one hour classroom work in estimating number of hours per week to be taken.

FRESHMAN YEAR

FALL TERM		WINTER TERM		SPRING TERM	
English *1a*	4	English *1b*	4	English *1c*	4
Mathematics *1a* (Algebra)	5	Mathematics *1b* (Algebra)	4	Mathematics *2c* (Solid Geometry)	5
Mathematics *2a* (Plane Geometry)	4	Mathematics *2b* (Plane Geometry)	5	Physics 1 (Ele. Physics)	4 (2)
History *1a* (Ancient History)	4	History *1b* (Mediaeval History)	4	Botany 1 (Ele. Botany)	3 (4)
Drawing *1a* (Ele. Drawing)	(4)	Drawing *1b* (Object Drawing)	(4)	Drawing *1c* (Ele. Design)	(2)
Domestic Arts *1a* (Sewing)	(2)	Domestic Arts *1b* (Sewing)	(2)	Domestic Arts *1c* (Sewing)	(2)
Domestic Arts *2a* (Millinery)	(2)	Domestic Arts *2b* (Millinery)	(2)	Domestic Arts *2c* (Millinery)	(2)

SOPHOMORE YEAR

FALL TERM		WINTER TERM		SPRING TERM	
English *2a*	4	English *2b*	4	English *2c*	4
German *1a* (Beginners' Course)	4	German *1b* (Beginners' Course)	4	German *1c* (Beginners' Course)	4
or Latin *1a* (Caesar)	5	or Latin *1b* (Caesar)	5	or Latin *1c* (Caesar)	5
Chemistry *1a* (Organic Chem.)	3 (4)	Chemistry *1b* (Inorganic Chem.)	3 (4)	Chemistry *1c* (Inorganic Chem.)	3 (4)
Drawing *2a* (Composition)	1 (2)	Drawing (Color Theory)	1 (2)	Drawing *2c* (Applied Design)	1 (2)
Zoology 1 (General Zoology)	3 (4)	Domestic Sci. *1a* (Hygiene)	1	Domestic Sci. *1b* (Sanitation)	1
Domestic Arts *3a* (Basketry)	(2)	Domestic Sci. *2a* (Theory of Cooking)	1	Domestic Sci. *2b* (Theory of Cooking)	1
		*Domestic Sci. *3a* (Cooking Prac.)	(4)	Domestic Sci. *3b* (Cooking Practice.)	(4)
		Domestic Arts *3b* (Basketry)	(2)	Domestic Arts 5 (History of Cos.)	(2)
		Domestic Arts 4 (Textiles)	1		

*Prerequisites: Freshman, physics and botany; Sophomore, zoology and inorganic chemistry. Correlative, domestic science *2a*.

JUNIOR YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 3.....5 (Shakespeare's Plays)	English 4*a* .....5 (18th Cent. Lit.)	English 4*b* .....5 (18th Cent. Lit.)
Botany 10 .....3 (4) (Molds & Mildews)	Chemistry 4 .....2 (Household Chem.)	Entomology 2 .....2 (2) (Household Ento.)
Physiology 1 .....3 (4) (Adv. Physiology)	Public Speaking .... (2) (Course Selected)	Horticulture 9 .....5 (Gardening)
Domestic Sci. 4*a*....2 (Home Economics)	Drawing 3*a* .....2 (2) (Casts)	Drawing 3*b* .....1 (2) (Applied Arts)
Domestic Sci. 5*a*....1 (Social Observ.)	Drawing 4*a* ..... (2) (Wood Carving)	Drawing 4*b* ..... (2) (Wood Carving)
Domestic Sci. 6*a*....1 (Theory of Cooking)	Domestic Sci. 4*b*....2 (Home Economics)	Domestic Sci. 4*c*....1 (Home Economics)
*Domestic Sci. 7*a*.. (2) (Cooking Prac.)	Domestic Sci. 5*b*.....2 (Social Observ.)	Domestic Sci. 6*c*....1 (Theory of Cooking)
Domestic Arts 6.....2 (Drafting)	Domestic Sci. 6*b*....1 (Theory of Cooking)	Domestic Sci. 7*c* (2) (Cooking Prac.)
	Domestic Sci. 7*b*... (2) (Cooking Practice)	Domestic Arts 8..... (4) (Dressmaking)
	Domestic Arts 7.....(2) (Cutting & Fitting)	

*Prerequisites: Sophomore, domestic science 2*a* and 2*b*; 3*a* and 3*b*. Correlative, domestic science 6*a*.

*SENIOR YEAR

English 5 .....5 (Poetry of Tennyson)	English 6 .....5 (Romantic Move.)	English 7 .....5 (Carlyle & Ruskin)
Bacteriology 1 .....3 (4) (Gen. Bacteriology)	Zoology 4 .....2 (4) (Embryology)	Domestic Sci. 13*b*..2 (History of Foods)
Arch. Eng. 13 .....1 (2) (Architecture)	Pedagogy 2 .....5 (History of Ed.)	Domestic Sci. 14*b*.. (2) (Adv. Cooking)
Domestic Sci. 8*a* ...2 (House Furnishing)	Domestic Sci. 8*b* 1 (House Furnishing)	Domestic Sci. 11*c*....1 (2) (Demonstrations)
Domestic Sci. 9.....2 (Home Nursing)	Domestic Sci. 13*a*....2 (History of Foods)	Domestic Sci. 15.....2 (School Equpi.)
Domestic Sci. 10..... (2) (Invalid Cookery)	Domestic Sci. 14*a*.... (2) (Adv. Cooking)	Domestic Sci. 12*c*....1 (2) (Teach. Dom. Sci.)
Domestic Sci. 11a..1 (2) (Demonstrations)	Domestic Sci. 11*b*....1 (2) (Demonstrations)	Domestic Sci. 16.... (4) (Chem. of Foods)
Domestic Sci. 12*a*..1 (2) (Teach. Dom. Sci.)	Domestic Sci. 12*b*....1 (2) (Teach. Dom. Sci.)	Domestic Sci. 17.....2 (House. Manage.)
Domestic Arts 9.... (2) (Adv. Handwork)	Domestic Arts 10*a*.. (2) (Fine Needlework)	Domestic Arts 10*b*.. (4) (Fine Needlework)

*The domestic science course of the Senior year is open only to students who have carried the entire preliminary work.

Domestic Science Department

SARAH WINDLE LANDES, *Professor*
ORPHA CATON, *Assistant*

For conducting the work, the department contains an extensive and up-to-date equipment.

The kitchen laboratory has a large steel range, for burning either wood or coal; also, a gas range, and individual gas burners. There is an abundant supply of cooking utensils, of the latest and most approved models, comprising many labor-saving devices. In several museum cases are shown methods used in the manu-

facture of flour, breakfast foods, cocoa, and other food products. The equipment holds also a valuable set of four meat-cutting charts, which designate the location of the bones, and the usual methods of cutting meats in the markets.

The dining room has, besides a commodious dining table and chairs, a well-furnished sideboard and two china closets stocked with an entire dinner and tea set. There are, besides, knives, forks, and other table implements in silver, as well as fancy pieces in silver, china and crystal.

In the College Library there are many valuable books of reference on domestic science and allied subjects. The Department of Domestic Science receives regularly about one dozen of the best household magazines.

SUBJECTS

1a. HYGIENE.—Sophomore year, winter term; one hour theory per week.

In this course it is the purpose to give a practical knowledge of the functions of the human body, and to show the need of personal responsibility in the care and improvement of the health. Texts, Pyle: "Personal Hygiene"; Currier: "Practical Hygiene". (Miss Caton.)

1b. SANITATION.—Sophomore year, spring term; one hour theory per week.

Attention is given to the sanitation and surroundings of the house; also to the water supply, drainage, ventilation, heating, lighting, furnishing, and cleaning. Text, Wilson: "Handbook of Hygiene and Sanitary Science". (Miss Caton.)

2a. THEORY OF COOKING.—Sophomore year, winter term; one hour per week.

A study is made of the various classes of food with regard to chemical composition, digestibility, and nutritive value; also, methods of cultivation and commercial value of commonly used foods are considered. Texts, Landes: "Elementary Domestic Science"; "Farmers' Bulletins". (Miss Caton.)

2b. THEORY OF COOKING.—Sophomore year, spring term; one hour per week.

A continuation of the study of food materials; also, various methods of cooking; care of foods, etc. Texts, Landes: "Elementary Domestic Science"; "Farmers' Bulletins". (Miss Caton.)

3*a*. COOKING PRACTICUM.—Sophomore year, winter term; four hours practice per week.

The practical work in cooking begins with the preparation of starchy foods, such as the cereals, potatoes, macaroni, etc. The dishes given are those requiring only simple manipulation. Attention is paid to the differing effects of moist and of dry heat upon food materials. Students are trained in the management of gas and of coal as sources of heat for cooking. Text, Landes: "Elementary Domestic Science". (Miss Caton.)

3*b*. COOKING PRACTICUM.—Sophomore year, spring term; four hours practice per week.

This continues the work of the winter term, but practice deals mainly with the proteids, as eggs, fish, meat; and with simple flour mixtures, such as biscuits, gems, cookies, and plain loaf cakes. Care is taken that the student learns to reason from cause to effect and vice versa. Text, Landes: "Elementary Domestic Science". Miss Caton.)

4*a-b-c*. HOME ECONOMICS.—Junior year, fall, winter and spring terms; one hour of theory per week in each term.

This includes discussions regarding the evolution of the house; homes of various peoples as affected by climate, industrial and social conditions; cost of living; divisions of income; household accounts; cash and credit systems; savings and investments. Texts, Ely & Wicker: "Elementary Principles of Economics"; Mason: "Woman's Share in Primitive Culture"; Campbell: "Women Wage Earners"; Richards: "The Cost of Living"; Salmon: "Domestic Service". (Professor Landes.)

5*a-b*. SOCIAL OBSERVANCES.—Junior year, fall and winter terms; one hour theory fall term and two hours winter.

The discussions consider the usages of good society, including manners, conversation, forms of address, introductions, entertainments, calls, etc. Texts, Sherwood: "Manners and Social Usages"; Ward: "Sensible Etiquette". (Professor Landes.)

6*a-b-c*. THEORY OF COOKING.—Junior year, fall, winter and spring terms; one hour fall term, one hour winter term, and one hour spring term.

The theory relates directly to the practical work done in the kitchen laboratory, and deals with processes in cooking requiring considerable skill, for example:—the roasting of meats, poultry, and game; the making of salads; pastry; ice cream and other frozen desserts. The selection of meats is taught from meat charts, and by visits to meat markets. (Professor Landes; Miss Caton.)

7*a-b-c*. COOKING PRACTICUM.—Junior year, fall winter and spring terms; two hours practice per week throughout the year.

This work is along practical lines and is a continuation of that done in the Sophomore year, but more advanced in character. Entire meals of a simple nature are prepared and served. (Professor Landes; Miss Caton.)

8*a-b*. HOUSE FURNISHING.—Senior year, fall and winter terms; two hours theory per week fall term and one hour per week winter term.

This study shows the relation between architecture and house furnishings; treats of the evolution of various articles and styles of furniture from very early historical times, to the present. There are discussions concerning good and poor taste in furniture as regards line, proportion, color, and decoration. As an aid to the understanding of the subject visits are made to furniture stores. Text, Candee: "Decorative Styles and Periods". (Professor Landes.)

9. HOME NURSING.—Senior year, fall term; two hours theory per week.

This is designed to enable women to care intelligently for cases of sudden illness or accident, and to perform the duties of a nurse when trained service is not employed. The use of disinfectants, quarantine regulations, and precautions against the spread of disease are considered. Texts, Hutchison: "Food and Dietetics"; Thompson: "Practical Dieteics"; Yeo: "Food in Health and Disease"; Weeks: "A Textbook on Nursing". (Professor Landes.)

10. INVALID COOKERY.—Senior year, fall term; two hours practice per week.

Various kinds of foods—liquid, semi-solid, and solid—are prepared, especial care being taken that students understand the selection of foods suitable in such ordinary diseases as measles, scarlet fever, typhoid, tuberculosis, etc. The arrangement of invalids' trays, with emphasis upon daintiness in serving, forms a part of the work. (Professor Landes.)

11*a-b-c*. DEMONSTRATION LECTURES.—Senior year, fall, winter and spring terms; one hour theory and two hours practice per week throughout the year.

The students in turn deliver addresses and do practice work in cooking before an audience consisting of other members of the class, and occasionally invited guests. The main objects of the work are to develop a spirit of self-reliance, originality of thought and manner of expression, and to afford opportunity for gain in both theoretical and practical knowledge of domestic science. Each lecture is followed by a critic meeting, as a source of infor-

mation and inspiration to lecturer and audience. (Professor Landes.)

12*a-b-c*. THE TEACHING OF DOMESTIC SCIENCE.—Senior year, fall, winter and spring terms; one hour theory and two hours practice throughout the year.

This course gives practice in the actual teaching of domestic science, the Senior students taking turns throughout the year in conducting classes which carry the lower grades of work in the department. (Professor Landes; Miss Caton.)

13*a-b*. HISTORY OF FOODS.—Senior year, winter and spring terms; two hours theory per week both terms.

The work includes, in addition to the study of foods from a historical viewpoint, the evolution of recipes and proportions, and a comparative study of American and foreign cookery. (Professor Landes.)

14*a-b*. ADVANCED COOKING.—Senior year, winter and spring terms; two hours practice per week both terms.

Practice work in advanced cooking trains students in the preparation of many of the best dishes of foreign origin, thus relating directly to the study of History of Foods. The finer branches of American cookery are also considered mainly with a view of enabling students to meet the requirements of adult classes; and to cater for entertainments. (Professor Landes.)

15. SCHOOL EQUIPMENT.—Senior year, spring term; two hours theory per week.

The course in school equipment embraces discussions on the location, and size of room, furniture and fittings, as well as untensils, advisable for the teaching of domestic science. Features particularly emphasized are suitability, durability, and economy in buying. (Professor Landes.)

16. CHEMISTRY OF FOODS.—Senior year, spring term; four hours practicum per week.

In this course, previous work done in the chemical laboratory is applied to the study of food materials. The effects of heat and other physical and chemical changes are noted; also, chemical composition and digestibility; and the detection of adulterations. (Professor Landes; Miss Caton.)

17. HOUSEHOLD MANAGEMENT.—Senior year, spring term; two hours theory per week.

Household management includes consideration of the various ways in which the housekeeper's time, strength, and money may be used to the best advantage; methods of simplifying house work; necessities versus luxuries in furnishings, clothing, food; domestic service. Texts, Clark: "Care of a House"; Salmon: "Domestic Service"; Parloa: "Household Economics". (Professor Landes.)

Department of Domestic Arts

Rebecca P. Acheson, *Professor*

This department will occupy the east wing of the first floor of the new Woman's Building and will include several well equipped sewing rooms, a fitting room, rest room, and lockers. The equipment of the class rooms consists of one large cutting table, sewing tables, six sewing machines of different makes, large mirrors for use in dress fitting, an electric iron for pressing, an electric heating plate for use in millinery class, drafting charts, and illustrative material such as cotton, silk, and flax fibers, and many others from all over the world; a sequence of the manufacture of needles, shears, sewing cotton, sewing silk, and linen thread for use in the study of textiles.

This department aims to meeet the needs of two classse of students, viz: First, students in the regular courses of the College who desire a knowledge of general principles and facts of household arts and sewing, as a preparation for home life. Second, students who desire to specialize with a view to becoming teachers of domestic arts.

Every effort is made to give each student the opportunity to develop both latent and evident capacities thus enabling the choice of an occupation that will return to the worker and to society the largest measure of satisfaction and benefit.

In this College emphasis is laid upon the artistic and practical side of technical work; therefore design and utility is made equal to excellence of technique. A regular alternative is maintained in the routine of classes between instruction that insists on mechanical accuracy and instruction that encourages freedom of line, form, and color of expression.

The courses in sewing have a two-fold purpose, the first being to present a systematic, well-developed course of instruction that shall develop skill on the part of the student. The second purpose is professional, being to give a content from which courses of study may be organized and show the development of the subject matter, its teaching possibilities, methods of presentation and class management. The complete course includes model sewing, plain sewing, dressmaking, and art needlework.

SUBJECTS

1*a*. MODEL SEWING.—Freshman year, fall term; two hours practicum per week.

Includes a course in making models of the stitches to be used in plain sewing and their application to seams, etc.

1*b*. PLAIN SEWING.—Freshman year, winter term; two hours practicum per week.

Includes the drafting of patterns for simple underwear and making of plain garments in underwear.

1*c*. MACHINE SEWING.—Freshman year, spring term; two hours practicum.

This term is a continuation of the previous terms and includes practice in machine sewing, use of attachments and making of either a dressing sacque or a kimona and a white petticoat or a nightgown.

2*a*. MILLINERY.—Freshman year, fall term; two hours practicum per week.

Model work of the various finishes for brims, facing, folds, shirrings, lining, etc.

2*b*. MILLINERY.—Freshman year, winter term; two hours practicum per week.

This term includes the drafting of patterns for shapes to be made up in buckram, and the covering and trimming of a model winter hat.

2*c*. MILLINERY.—Freshman year, spring term; two hours practicum per week.

This term includes spring millinery; a study of styles, discussion of materials, remodeling of old hats, wire frame making, covering, sewing straw, and finishing summer hats.

3*a*. BASKETRY.—Sophomore year, fall term; two hours practicum per week.

A course of instruction in simple cord and raffia work, including sewed baskets, over soft coil and reed coil. Designs adapted to the form are studied and applied.

3*b*. BASKETRY.—Sophomore year, winter term; two hours practicum per week.

Reed baskets are woven and the course includes other simple problems in basketry which can be applied in grade teaching.

4. TEXTILES.—Sophomore year, winter term; one hour theory per week.

The purpose of this course is to give a practical understanding of the various animal and vegetable fibers and processes of their preparation for manufacture; their value in the commercial world; their utility and value for textile fabrics. This course leads to training in good judgment and taste in selection of proper and suitable wearing apparel. It includes the study of the art of weaving, development of spinning, and modern processes of manufacture, its economic value and the effect upon social conditions.

5. HISTORY OF COSTUME.—Sophomore year, spring term; two hours theory per week.

This course offers a study of the History of Coustumes, covering dress of the primitive people and of early mediaeval and modern ages; of the folk costume of various countries, including strange customs in which dress forms an important part. It takes up the hygienic side of costume of modern day, pointing out harmful as well as useful features of present styles.

6. DRAFTING.—Junior year, fall term; two hours practicum per week.

Drafting flat paper patterns to individual measurements. Charts are the property of the College.

7. CUTTING AND FITTING.—Junior year, winter term; two hours practicum per week.

This includes the application of certain of the patterns of the previous term, and the making of a fitted cambric pattern, and making a simple wash dress, without a lining.

8. DRESSMAKING.—Junior year, spring term; two hours practicum per week.

The purpose here is to teach the art of dressmaking; the study of line, proportion, color, and adaptation of material; to develop neatness, accuracy, self-reliance, originality, and a high ideal of work. This term includes the making of a tailored shirt waist, plain tailored skirt and a simple summer dress.

NOTE.—Shirt Waist:—Tailored shirt waist designed and cut to individual measurements; particular attention is given to sleeve, placket, cuff, collar and finishing. Skirt:—Five, seven and nine-gored skirt patterns are studied with view to their desirable and practical values and application.
Summer dress of batiste, lawn, dimity, or other thin materials made in prevailing practical style suitable to the wearer.

9. ADVANCED HANDWORK.—Senior year, fall term; two hours practicum per week.

Art needlework is taught, including simple stitches in embroidery, and its application to doilies, towels, center pieces, and embroidered underwear.

10a. FINE NEEDLEWORK.—Senior year, winter term; two hours practicum per week.

Includes the making of fine French lingerie.

10*b*. FINE NEEDLEWORK.—Senior year, spring term; four hours practicum per week.

Includes the making of an evening dress and a fancy wash dress for commencement.

Department of Drawing

HARRIET DAY, *Instructor*

The aim of the course in this department is to give a training that is necessary for use in the practicum subjects of the College. In the Freshman year the drawing is so planned as to afford the same work for all students in courses where drawing is taken, giving only the elementary principles and their application in matters of everyday life.

In the Normal Course it is planned for further study of teaching drawing in the eight grades of the elementary schools. In the Domestic Science and Arts the principles of space, art and color harmony related to their use in interiors and exterior decorations of homes and costumes. The object of the work is to develop an appreciation of good form and color and to enable the student to exercise a more intelligent and sensitive discrimination in their use. Emphasis is laid upon simplicity but well-chosen and inexpensive decoration.

SUBJECTS

1*a*. ELEMENTARY DRAWING.—Freshman year, fall term; four hours practicum.

An elementary course designed for the development of graphic expression with special reference to the needs of engineers for

freehand sketching of machinery; agriculturists in the study of plants and animals; teachers in the grades of public schools; domestic science and arts students the study of space-art and color applicable for homes and dress; architects in space-art and elementary color; and its use in applied science. Required of all Freshmen.

1*b*. OBJECT DRAWING AND SKETCHING.—Freshman year, winter term; four hours practicum.

Further study of perspective, principles of representation of light and shadow, drawing from still-life, study of comparative proportions of parts and beauty of form related to common objects of practical use. Required of Freshmen women of Teachers' Normal Course; Science and Literature Course and Domestic Science and Arts Divisions.

1*c*. ELEMENTARY DESIGN.—Freshman year, spring term; two hours practicum.

Making of designs from spring blossoms and plant forms for motif and their application to various materials. The principles of order, as expressed by balance, rhythm and harmony are considered and worked out. Required of women (only) of Science and Literature, and of Teachers' Normal and Domestic Science and Arts students.

2*a*. COMPOSITION.—Sophomore year, fall term; two hours practicum and one hour theory.

Dark and light with special reference to decorative usages in applied art. The theory of line, dark-and-light, are studied in their various relations of proportion, subordination rhythm and tone values. Required of Sophomore Domestic Science and Art students.

2*b*. COLOR THEORY.—Sophomore year, winter term; two hours practicum and one of theory.

Continuation of 2a, with a study of special problems in color harmonies. Theory of the problems. Required of Domestic Science and Arts students.

2*c*. APPLIED DESIGN.—Sophomore year, spring term; two hours practicum and one of theory.

Special problems in applied design for use of Domestic Science and Arts students. Theory of color and line for these problems.

3*a*. CASTS.—Junior year, winter term; two hours practicum and two hours of theory.

Drawing from casts to develop accuracy of drawing; modeling in clay for wood-carving; theory of design for various materials. Domestic Science and Arts Students.

3*b*. APPLIED ARTS.—Junior year, spring term; two hours practicum and one of theory.

Application of original designs and color harmonies for costume and home art. For furnishings, metal textiles, embroidery, carpets, wall decorations, and interiors, use of stencils and block painting. Required of Domestic Science and Art students.

4*a-b*. WOOD CARVING.—Junior year, winter and spring term; two hours practicum.

The work is considered throughout with reference to its use as a decorative element in construction and the execution of projects for decoration. Required of Domestic Science and Arts students.

5. TEACHING OF DRAWING.—Sophomore year, spring term; two hours practicum.

This course deals with the teaching of drawing in the eight grades of the elementary schools. Illustrative work forms so large a part of modern educational methods it necessitates good drawing and this course is planned to meet the needs of grade teachers. The following divisions will be studied: 1. Technique. 2. A pedagogical view of the subject. 3. Selection of materials. 4. The special purpose of teaching of drawing and general methods of presentation. Repuired of Sophomores, Teachers' Normal students.

6. STUDIO WORK.—Elective. Hours arranged by the instructor. No fee for instruction and no credit given.

Opportunity is given for special work in design, tooled leather, clay or wax modeling, pottery, pen and ink sketching, drawing from casts, perspective, still-life painting in oil, water color, and pastel, stenciling and block painting.

SCIENCE AND LITERATURE DIVISION

The College has for some time maintained a "General Science" and a "Science and Literature" Course. Recently the various courses of study comprehended under these two titles have been thoroughly revised, considerably augmented, and recombined as the *Science and Literature Division*.

The subjects of the Science and Literature Division are taught by the following departments:

The Department of Zoology and Veterinary Science.

The Department of English.

The Department of German and Latin.

The Department of Mathematics and Astronomy.
The Department of Chemistry, Metallurgy, and Mineralogy.
The Department of Political Economy and Social Science.
The Department of Public Speaking.
The Department of Mechanical and Electrical Engineering.
The Department of Civil Engineering.
The Department of Horticulture and Botany.
The Department of Domestic Science.
The Department of Domestic Arts.
The Department of Agronomy.
The Department of Animal Husbandry.
The Department of Architectural Engineering.
The Music Department.
The Department of Entomology.
The Department of Pedagogy and History.

THE ELECTIVE SYSTEM.

From the tabulated statement which follows, it will be noted that after the Sophomore year much freedom of election is offered. By a wise exercise of this freedom a student can obtain not only a broad general education, but also a large degree of specialization in any of the departments included.

RELATION TO OTHER DIVISIONS.

Besides the instruction given to students taking the Science and Literature Course, the instructional force of this division gives much of the collateral work taken by students in the other divisions. Conversely, among the courses offered to students of this division are many from the various departments of the other divisions. For example, a student who wishes to specialize in one of the departments of the Science and Literature Division may elect a considerable amount of work in agriculture, in pedagogy, or in domestic science and art. The feature of the work is in accord with recent education development, and enables the earnest student to prepare himself or herself for the specific work to which opportunity and inclination call.

EQUIPMENT.

The Science and Literature Division is well equipped for its work. Besides its large teaching force, it has the books, maps, instruments, apparatus, specimens, charts and materials needed by its several departments. For further information concerning the equipment and the work offered see the announcements of the various departments following the outline of courses.

Outline of Courses in Science and Literature Division, Giving Subjects and Hours

The figure and letter, following the departmental name, signify the serial number of the subject and whether the term's work indicated is the first (*a*), second (*b*), or third (*c*) term's work in the same subject. The name in parentheses is the specific name of the subject, and the figures in column at the right of the name indicate the number of hours per week the subject is taught,—class-room hours without parentheses, practicum hours in parentheses. The practicum period is two hours in length, and is equivalent to one hour classroom work in estimating number of hours per week to be taken. Students must take, including electives, at least eighteen hours work per week and not more than twenty-three hours, without special permission. Junior electives are open to seniors and Senior electives are open to Juniors, upon approval of adviser and head of department concerned.

FRESHMAN YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 1*a* 4	English 1*b* 4	English 1*c* 4
Mathematics 1*a* .....5 (Algebra)	Mathematics 1*b* .....4 (Algebra)	Mathematics 2*c* ....5 (Solid Geometry)
Mathematics 2*a* .....4 (Plane Geometry)	Mathematics 2*b* .....5 (Plane Geometry)	Physics 1 .....4 (2) (Ele. Physics)
History 1*a* .....4 (Ancient History)	History 1*b* .....4 (Mediaeval History)	Mathematics 1*c* .....3 (Algebra)
Animal Hus. 1*a* (Men) ..... (4) (Stock Judging)	Animal Hus. 1*b* (Men) ..... (4) (Stock Judging)	or Botany 1 .....3 (4) (Ele. Botany)
Drawing 1*a* ..... (4) (Ele. Drawing)	Engineering 1 (Men) ..... (4) (Woodwork)	Public Speaking 1 (Men) ..... (4) (Vocal Expression)
Domestic Arts 1*a* (Women) ..... (2) (Sewing)	Drawing 1*b* (Women) ..... (4) (Object Drawing)	Domestic Arts 1*c* (Women) ..... (2) (Sewing)
Domestic Arts 2*a* (Women) ..... (2) (Millinery)	Domestic Arts 1*b* (Women) ..... (2) (Sewing)	Domestic Arts 2*c* (Women) ..... (2) (Millinery)
	Domestic Arts 2*b* (Women) ..... (2) (Millinery)	

SOPHOMORE YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 2a 4	English 2b 4	English 2c 4
Chemistry 1a ....3 (4) (Inorganic Chem.)	Chemistry 1b ....3 (4) (Inorganic Chem.)	Chemistry 1c ....3 (4) (Inorganic Chem.)
German 1a ....4 (Beginners' Course)	German 1b ....4 (Beginners' Course)	German 1c ....4 (Beginners' Course)
Zoology 1 ....3 (4) (General Zoology)	History 2 ....4 (English History)	History 3 ....4 (American History)

SOPHOMORE ELECTIVES

Mathematics 3 ....5 (Trigonometry)	Mathematics 4a ....3 (Analytic Geom.)	Mathematics 4b ....3 (Analytic Geom.)
History 1c ....4 (Modern History)	Agronomy 10 ....4 (2) (Geology)	Mathematics 5 ....4 (Astronomy)
Music 2 (4)	Music 2 (4)	Music 2 (4)
Latin 1a ....5 (Caesar)	Latin 1b ....5 (Caesar)	Latin 1c ....5 (Caesar)
	Domestic Sci, 1a....1 (Hygiene)	Domestic Sci. 1b....1 (Sanitation)
	Domestic Sci. 1a....1 (Theory of Cook.)	Domestic Sci. 2b....1 (Theory of Cook.)
	Domestic Sci. 3a.... (4) (Cooking Practicum)	Domestic Sci. 3b.... (4) (Cooking Practicum)
		Drawing 5 ....2 (Teach. of Draw.)
		Entomology 1 ....1 (2) (Ele. Entomology)

JUNIOR YEAR

Physics 2 ....3 (2) (Sound & Light)	Physics 3 ....3 (2) (Elec. & Magnet.)	Zoology 3 ....2 (4) (General Biology)
English 3 ....5 (Plays of Shake.)	English 4a ....5 (18th Cent. Lit.)	English 4b ....5 (18th Cent. Lit.)
or German 2a....5 (Adv. Reading)	or German 2b....5 (Adv. Reading)	or German 2c....5 (Adv. Reading)

JUNIOR ELECTIVES

Botany 2 ....3 (4) (Plant Histology & Physiology)	Botany 4 ....2 (1) (Plant Pathology)	Botany 5 ....1 (6) (Systematic Botany)
Chemistry 2 ....3 (4) Adv. Inor. Chem.)	Chemistry 5 ....2 (6) (Indus. Chemistry)	Chemistry 6 ....2 (6) (Chem. Engineer.)
Physiology 1 ....3 (4) (Adv. Physiology)	Chemistry 3a ....1 (Chem. Review)	Chemistry 3b ....1 (Chem. Review)
Domestic Sci. 5a....1 (Social Observ.)	Domestic Sci. 5b....1 (Social Observ.)	Chemistry 7 ....2 (6) (Intro. Organ. Chem.)
Domestic Sci. 6a....1 (Theory of Cook.)	Domestic Sci. 6b....1 (Theory of Cook.)	Domestic Sci. 6c....1 (Theory of Cook.)
Domestic Sci. 7a.... (2) (Cooking Prac.)	Domestic Sci. 7b.... (2) (Cooking Prac.)	Domestic Sci. 7c.... (2) (Cooking Prac.)
Domestic Arts 6.... (2) (Drafting)	Domestic Arts 7.... (2) (Cutting & Fitting)	Domestic Arts 8.... (4) (Dressmaking)
Music 2 (4)	Music 2 (4)	Music 2 (4)
Latin 2a ....5 (Cicero)	Latin 2b ....5 (Ovid)	Latin 2c ....5 (Virgil)
Social Science 2....4 (Prin. of Pol. Econ.)	Social Science 3....4 (Indus. Combina.)	Social Science 4....4 (Agri. Economics)
Mathematics 6a ....4 (Calculus)	Mathematics 6b ....4 (Calculus)	Mathematics 6c ....4 (Calculus)
English 3 ....5 (Plays of Shake.)	English 4a ....5 (18th Cent. Lit.)	English 4b ....5 (18th Cent. Lit.)
German 2a ....5 (Adv. Reading)	German 2b ....5 (Adv. Reading)	German 2c ....5 (Adv. Reading)
Pedagogy 1 ....5 (Psychology)	Pedagogy 2 ....5 (History of Ed.)	Pedagogy 3 ....5 (Methods & Man.)
	Public Speaking 2	Civil Engineering 1a (4) (Surveying)
	Zoology 2 ....3 (4) (Histology)	Mathematics 5 ....4 (Astronomy)
		Entomology 2 ....2 (2) (Household Ento.)

SENIOR YEAR

FALL TERM	WINTER TERM	SPRING TERM
Social Science 1.....4 (Com. Usages)		

SENIOR ELECTIVES

Bacteriology 1 .....3 (4) (Gen. Bacteriology)	Bacteriology 2 .....2 (4) (Agri. Bacteriology)	Bacteriology 3 .....2 (4) (Technical Bacter.)
Botany 6 .....3 (2) (Spec. Sys. Botany)	Botany 8 .....3 (2) (Plant Morphology)	Botany 9 .....3 (4) (Plant Morphology)
English 5 .....5 (Tennyson)	English 6 .....5 (Romantic Move.)	English 7 .....5 (Carlyle & Ruskin)
German 3*a* .....4 (Masterpieces)	German 3*b* .....4 (Masterpieces)	German 3*c* .....4 (Masterpieces)
Latin 3*a* .....5 (Livy)	Latin 3*b* .....5 (Horace)	Latin 3*c* .....5 (Catullus)
Music 2 (4)	Music 2 (4)	Music 2 (4)
Chemistry 8*a* .....2 (6) (Adv. Org. Chem.)	Chemistry 8*b* .....2 (6) (Adv. Org. Chem.)	Chemistry 13 .....2 (6) (Adv. Gen. Chem.)
Chemistry 9 .....2 (4) (Mineralogy)	Chemistry 11 .....2 (4) (Metallurgy)	Thesis .....5 (Any Department)
Chemistry 10 .....3 (4) (Agri. Chem.)	Chemistry 12*a* .....2 (6) (Thesis)	Social Science 7.....4 (Women's Work & Wages)
Social Science 5..... (4) (Prin. of Sociology)	Social Science 6 ....4 (American Citizen.)	Social Science 8.....4 (Government)
Entomology 3 .....3 (4) (Economic Ento.)	Zoology 4 .....2 (4) (Embryology)	Entomology 5 .....3 (4) (Scientific Ento.)
Mathematics 7 .....3 (Differ. Equations)	Entomology 4 .....2 (4) (Biological Ento.)	Horticulture 3 .....2 (2) (Forestry)
Pedagogy 6 .....2 (High School Teaching)	Pedagogy 7 .....2 (High School Administration)	Pedagogy 8 .....2 (School Supervision)

Department of Zoology and Veterinary Medicine

L. L. LEWIS, *Professor*
W. A. STARIN, *Assistant*

The Department of Zoology and Veterinary Medicine occupies quarters in the Library Building. The equipment consists of twenty-two Zeiss and Leitz microscopes with oil immersion lenses, microtomes, dissecting instruments and cameras. The department is also well supplied with dissectable models of various animals, including an Azoux model of the horse, skeletons and charts for lecture room work. A good working collection of museum specimens are at hand for work in zoology, veterinary medicine, etc. For the work in physiology there are skeletons of the human body, manikins, charts, models, etc. The following work is offered by the department in the regular College courses:

SUBJECTS

VETERINARY MEDICINE.

1. ANATOMY.—Junior year, winter term; two lectures and two practicum periods per week.

   This course is offered to students in the animal husbandry course and includes a brief study of the anatomy of the horse. One or more dissections will be made during the term. Text, Cheveau: "Comparative Anatomy of Domestic Animals". (Dr. Lewis.)

2. ANIMAL PARASITES.—Senior year, fall term; two recitations per week.

   This course will be a continuation of the work in zoology for the students in the Agricultural Division. The work is designed to cover the general subject of controlling and treating parasitic diseases. Text, Dr. Kaupp: "Animal Parasites". (Dr. Lewis.)

3. MATERIA MEDICA.—Senior year, winter term; three recitation periods per week.

   The work is designed especially for agricultural students. Text, Winslow: "Materia Medica and Therapeutics". (Dr. Lewis.)

4. INFECTIOUS DISEASES.—Senior year, spring term; two lectures per week.

   This work is given to students in the animal husbandry course. It follows the work in bacteriology and special attention is given

to infectious and contagious diseases. Text, Law: "Veterinary Medicine". (Dr. Lewis.)

PHYSIOLOGY

1. ADVANCED PHYSIOLOGY.—Junior year, fall term; three recitations and two laboratory periods per week.

This course is required of students in the Agricultural and Domestic Science Divisions and is elective for the students in the Science and Literature and Normal Divisions. Particular attention is given to the physiology of nutrition. Laboratory work will include microscopic examinations of body fluids, digestion experiments, etc. Elementary Physiology and Chemistry are necessary prerequisites for this course. Text, Brubaker: "Text-Book of Physiology". (Dr. Lewis and Mr. Starin.)

ZOOLOGY

1. GENERAL ZOOLOGY.—Sophomore year and Junior year, fall term; three recitations and two laboratory periods per week.

This course is given in fall term of the Sophomore year to students in the Science and Literature and Normal Divisions and to Juniors in the Agricultural Division. The instruction given covers the general principles of the science and serves as an introduction to more advanced work in biology. Text, Linville & Kelly: "General Zoology". (Dr. Lewis and Mr. Starin.)

2. HISTOLOGY.—Junior year, winter term; three recitations and two laboratory periods per week.

The work is elective for science and normal students. Text to be selected. (Mr. Starin.)

3. GENERAL BIOLOGY.—Junior year, spring term; three recitations and two laboratory periods per week.

This course is required of science and literature students and may be elected by normal course students. The work includes a general study of the problems of organic evolution, heredity, variation, etc. A brief review will be made of the work of the men most prominently connected with the development of biolgic sciences. Text to be selected. (Dr. Lewis and Mr. Starin.)

4. EMBRYOLOGY.—Senior year, winter term; two lectures and two laboratory periods per week.

This course is required in the Domestic Science and Arts Division and elective in the Normal and Science and Literature Divisions. A study of the development of vertebrates will be made

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using the chick as laboratory material. The best laboratory technique will be followed in making serial sections and in reconstruction work. Text, Foster & Balfour: "Embryology of the Chick". (Dr. Lewis.)

BACTERIOLOGY

1. GENERAL BACTERIOLOGY.—Senior year, fall term; three recitations and two laboratory periods per week.

Bacteriology is required of agricultural and domestic science and art students and is elective for normal and science and literature students. The course covers the general principles of the science and enables the student to comprehend the importance of bacteria as related to disease, their economy in nature and to the various industries. This work is prerequisite to any work in bacteriology during the winter or spring terms. (Dr. Lewis and Mr. Starin.)

2. AGRICULTURAL BACTERIOLOGY.—Senior year, winter term; two recitations and two laboratory periods per week.

The work is elective and will include studies of the relation of bacteria to agriculture and to many of the industrial processes. A brief study is made of the action and properties of enzymes. Text, Conn: "Agricultural Bacteriology". (Dr. Lewis and Mr. Starin.)

3. TECHNICAL BACTERIOLOGY.—Senior year, spring term; two recitations and two laboratory periods per week.

This course is open to students desiring to familiarize themselves with particular problems in the subject. Individual preference of the student will be given consideration in outlining the work. (Dr. Lewis and Mr. Starin.)

Department of Chemistry

HARDEE CHAMBLISS, *Professor*
L. H. ROSE, *Assistant Professor*
....., *Assistant*
....., *Graduate Assistant*

The Chemistry Course as a whole is designed to give the student considerable familiarity with carefully selected chemical facts and upon these facts as a basis to build up his conception of the principles, theories and laws which underlie the chemical science of today. That he may better appreciate the value of the subject to mankind in the past and present, some attention is paid to the history of the subject and to the modern applications in the arts and manufactures. That he may be able to read current

chemical literature intelligently and thereby "keep up with the times", the most modern theories are presented in simple form.

Furthermore, in as much as nearly every practical chemist begins as an analyst and many make analysis their life work, great stress is laid on analytical training. The art of quantative analysis is taken up after a thorough drill in the practical and scientific side of qualitative work. In fact the analytical work begins during the spring term of the Sophomore year and continues with very little interruption until the spring term of the Senior year.

This department occupies the entire Chemistry Building, which consists of two stories, basement and attic. One of the large, bright rooms on the first floor is fitted up for lectures and recitations. There is a lecture table conveniently equipped and arranged for demonstration and observation. The supply of apparatus and chemicals is quite extensive and the student's interest in the subject is first aroused then encouraged and stimulated. The lecture room has a seating capacity of over one hundred. The remainder of the first floor is taken up with laboratories and balance rooms for quantitative work.

The office and private laboratory of the professor in charge is also on this floor.

On the second floor are laboratories for introductory work and qualitative analysis, the office of the assistant professor and two large store rooms. All desks are so equipped with bottles of reagents and with apparatus as to minimize the loss of time incident to a student leaving his desk for these articles; and even in the case of the more expensive instruments, materials and models for advanced students, every effort is made to keep on hand a supply that will meet all reasonable demands and so prevent serious loss of time and enthusiasm on the part of the student.

The building is heated by steam and the gas for light and experimental use comes from a Terrill equalizing gas machine in the basement. The attic and basement of the building beside containing store rooms and assay rooms, afford some space for growth of the department.

As elsewhere stated Sophomores are required to pay $2.00 per term to cover breakage. Juniors and Seniors are required to pay $1.50 per laboratory course per term. None of the above deposits are returnable but a contingent fee of $3.00 per term is required of all students taking laboratory courses. This fee is returnable wholly or in part according to the damages, losses, etc., sustained by the department through the inexperience or carelessness of students.

In general it may be said that it is the policy of the department to maintain at all times those conditions which will promote order and a serious yet pleasurable interest in scientific work.

The work of the department consists of two main divisions:

1. The General Course taken by all Sophomores.
2. The Special Course taken by those who elect chemistry for their special work during the Junior and Senior years.

SUBJECTS

1*a-b-c*. GENERAL INORGANIC CHEMISTRY.—Sophomore year, fall, winter, and spring terms; three class-room periods and four hours of laboratory work per week

This is the beginners' course and is the foundation of all future work in chemistry,—furthermore, inasmuch as the course is required of all students taking the regular collegiate course, it is intended to cultivate powers of manipulation, observation and logical reasoning. Special attention is paid to facts which illustrate general principles. The difference is constantly emphasized between a fact on the one hand and a theory or law which is intended to associate that fact with all other similar facts on the other. The historical development of these facts, theories and laws and their application to manufactures and the useful arts are brought out in order to add to the interest of the subject and to increase its cultural value. Text-Books:—Theory, "Remsen's Briefer Course"; practicum, "Remsen's Laboratory Manual". Prerequisite, Elementary Physics.

2. ADVANCED INORGANIC CHEMISTRY.—Junior year, fall term; three class-room periods and four hours of laboratory work per week.

The object of this course is to broaden and deepen the foundation laid in the Sophomore year (course 1a-b-c). The review of the fundamental facts, theories and laws in an amplified form, their experimental verification in the laboratory, and their application in solving problems in chemical arithmetic are the main features. Text-Books:—Theory, Baskerville's "General Inorganic Chemis-

try", Hale's "Calculations of General Chemistry"; practicum, Stoddard's "Quantitative Experiments in General Chemistry". Prerequisite, 1a-b-c.

3*a-b*. CHEMISTRY REVIEW.—Junior or Senior year, winter and spring terms; one class-room period per week; no laboratory work.

This is essentially a review of 1a-b-c, with such additional work as may seem best suited to make the review most profitable. It should be taken preferably in the Senior year. Aside from the fact that the elementary principles are easily forgotten and should be often reviewed, it is a fact that however frequently one may turn to the consideration of these principles he rarely sees them in the same light twice; they seem to mean more to him each time they are reviewed. Text-Books:—Theory, Same as that used in 1a-b-c. Prerequisite, 1a-b-c.

4. HOUSEHOLD CHEMISTRY.—Junior year, winter term; two class-room periods per week; no laboratory work.

Intended primarily for the students of domestic science that they may acquire some knowledge of the chemical changes involved in cooking, cleaning, etc. Text-Books:—Richards & Elliott's "Chemistry of Cooking and Cleaning". Prerequisite, 1a-b-c.

5. INDUSTRIAL CHEMISTRY.—Junior year, winter term; two class-room periods and six hours of laboratory work per week.

The purpose of this course is to give in some detail the description of a few of the more important processes for manufacturing inorganic chemical products. Some familiarity with patent literature in general and with the patents bearing on one or more prominent industries will be features of the course. The laboratory work accompanying will consist chiefly of advanced qualitative analysis. Text-Books:—Theory, Rogers and Aubert's "Industrial Chemistry"; practicum, Perkin's "Qualitative Analysis". Prerequisite, 2.

6. CHEMICAL ENGINEERING.—Junior year, spring term; two class-room periods and six hours of laboratory work per week.

In this course are discussed the methods of carrying on a chemical operation or a series of such operations on the manufacturing scale,—i. e., using hundred-weights of material instead of ounces. Such principles as those governing the flow of liquids and gases through pipes and best methods of absorbing gas in a liquid are studied. The apparatus and machinery used in chemical processes are also taken up. The laboratory work consists of elementary quantitative analysis. Text-Books:—Grossman's "Ele-

ments of Chemical Engineering", Nagel's "Mechanical Appliances of Chemical and Metallurgical Industries". Prerequisite, 5.

7. Organic Chemistry (Introductory).—Junior year, spring term; two class-room periods and six hours of laboratory work per week.

A brief introduction to the study of organic chemistry, which is followed by more advanced work in the fall and winter terms of the Senior year. In this course the principal homologous series of hydro-carbons, alcohols, aldehydes, etc., are taken up. It is intended to give the student well defined ideas concerning the characteristics of carbon which distinguish it from other elements, and to emphasize those nitrogen deriatives of the hydrocarbons which play an important part in the economy of nature,—i. e., in fertilizers, foods, etc. As in 6, the laboratory work consists of elementary quantitative analysis. Text-Book:—Hart's "Chemistry for Beginners", Vol. II, Organic. Prerequisites, 1a-b-c. Agricultural students are exampt from 2, but are required to take 3a-b.

8*a-b*. Organic Chemistry.—Senior year, fall and winter terms; two class-room periods and six hours of laboratory work per week.

The oxygen, sulphur, nitrogen, phosphorus and other derivatives of aliphatic and carbocyclic hydrocarbons are studied as fully as the time permits. The laboratory work is a continuation of quantitative analysis. Text-Book:—Remsen's "Introduction to the Study of the Compounds of Carbon". Prerequisite, 7.

9. Mineralogy.—Senior year, fall term; two class-room periods and four hours of laboratory work per week.

The course in theory consists in the study of the names, composition and characteristics of the principal ores of the more important metals and the calculation of the per cent of the metal that should be found in a given ore. The laboratory work is determinative mineralogy proper and a student is expected to become familiar with the use of the blowpipe, the borax bead and all other common means for identifying minerals. Some microscopic work is also offered. Text-Book:—Theory, Iddings' "Rock Forming Minerals"; practicum, Erni & Brown's "Mineralogy Simplified". Prerequisite, 2.

10. Agricultural Chemistry.—Senior year, fall term; three class-room periods and four hours of laboratory work per week.

This course is intended primarily for agricultural students but is elective to others. Its object is to study the chemical side of soils, and of the atmosphere in its relation to plant life. Special attention is paid to fertilizers and their relation to different kinds of soils and to different varieties of crops. The laboratory work consists in quantitative analysis of fertilizers and of agricultural products. Text-Books:—Theory, Ingle's "Manual of Agricultural

Chemistry"; practicum, Lincoln & Walton's "Quantitative Anlysis," and Bulletins of the U. S. Department of Agriculture. Prerequisites, 1a-b-c; 3a-b, and 7.

11. METALLURGY.—Senior year, winter term; two class-room periods and four hours of laboratory work per week.

The chemistry of a considerable number of metallurgical processes is treated and the operation of a few typical ones is presented. In the laboratory detail fire assays are made of the principal ores of important metals. Text-Books:—Theory, Rhead's "Metallurgy"; practicum, Brown's "Assaying". Prerequisites, 2; 5, and 6.

12*a-b*. THESIS*.—Senior year, winter and spring terms; two class-room periods and six hours of laboratory work per week.

In the Science and Literature Division thesis is not required for graduation but is elective. In this department which belongs to that division, it is elective under certain conditions, making it a reward for good scholarship. It is believed that a poor student or even a mediocre one can employ his time to better advantage by electing some other course than by trying to work out a thesis. The class-room periods are devoted to the careful consideration of selected topics such as typical investigations of famous chemists of the past and present. In the laboratory a serious experimental study of some subject of rather general interest is taken up. The work is intended to cultivate the powers of the student; more particularly his self-reliance and his ability to interpret experimental results. Theory reference books:—Muir's "History of Chemical Theories and Laws"; "Annual Reports of Progress of Chemistry", published by the London Chemical Society; "Monographs", published by Royal Society of England. Prerequisites, all preceding and contemporaneous courses in the department except 4.

*Thesis may be elected only upon written application, approved by the head of the department, and may be continued during a second term under similar conditions.

13. GENERAL CHEMISTRY.—Senior year, spring term; two class-room periods and six hours of laboratory work per week.

In this course the object is to give the student an insight into some more advanced phases of inorganic, organic, and theoretical chemistry. The laboratory work consists in mainly preparing and testing organic compounds. Text and reference books:—Caven & Lander's "Systematic Inorganic Chemistry"; Garrett's "Periodic Law"; Lachmann's "Spirit of Organic Chemistry"; Mathewson's "First Principles of Chemical Theory". Prerequisites, all preceding courses in pure chemistry.

Department of Entomology

C. E. SANBORN, *Professor*
A. L. LOVETT, *Assistant*

This department now occupies quarters in Morrill Hall. These quarters consist of an office and station laboratory, a lecture room for class use, and a student laboratory.

The equipment includes ten compound microscopes, consisting of one Bausch & Lomb "Professional", three Bausch & Lomb "BB6", six Zeiss "IVA", all with eye pieces and objectives complete. There are also two Zeiss compound demonstration and eleven Zeiss and Barnes dissecting microscopes. A full line of reagents, stains, glassware, and collecting apparatus is at the student's disposal. Models, prepared life histories, and mounted specimens of economic insects are available for observation and lecture work. Breeding cages and live boxes are provided for carrying on observation work in the laboratory and field.

SUBJECTS

1. ELEMENTARY ENTOMOLOGY.—Sophomore year, spring term; theory one hour, practice two hours per week.

   This course is required of students of the Agricultural Division, and elective for those of the Science and Literature Division. Lectures and recitations on insects in general will constitute the theory. Some particular text-book will be used as a guide in theory. The student will become acquainted with the different groups of insects, and the anatomy, by studying one particular type during the practicum.

2. HOUSEHOLD ENTOMOLOGY.—Junior year, spring term; lectures and recitations, two hours per week; practicum, one afternoon per week.

   This work consists of a practical study of the insects of the household and practical remedies for their control. Collections of the insects are made, and practical demonstrations in how to apply remedies are given. Thus the student becomes acquainted with the insects and also the practical application of remedies for their control.

3. ECONOMIC ENTOMOLOGY.—Senior year, fall term; lectures and recitations, three hours per week; practicum, two afternoons per week.

   This term's work is devoted to a study of our economic insects; their life histories, habits, natural enemies, and means of combat-

ting them. Field work and observations make the student acquainted with the insects, and enable him to recognize the best time and means of combatting. Laboratory work is of a nature to acquaint him with the remedies and how applied. This work is elective in the Science and Literature and Agricultural Division.

4. THE BIOLOGICAL ASPECTS OF ENTOMOLOGY.—Senior year, winter term; lectures and recitations, two hours per week; practicum, two afternoons per week.

This work consists of a systematic study of the biological aspects of insects. A careful study is made of anatomy and physiology of insects; their adaptations to surroundings and the relations which they bear to man. The time devoted to laboratory work is taken up in a study of the external and internal structures, the physiology of metamorphosis, and the classification of some of our economic insects. This work is required in the Agricultural Division and is elective in the Science and Literature Division.

5. SCIENTIFIC ENTOMOLOGY.—Senior year, spring term; lectures and recitations, three hours per week; laboratory work, two afternoons per week.

This term will be devoted to the collection and classification of Oklahoma insects and a scientific study and grouping of them. This work is elective in the Science and Literature and Agricultural Divisions.

The Department of English Language and Literature

W. W. JOHNSTON, *Professor*
H. G. SELDOMRIDGE, *Assistant*
L. F. STEWART, *Assistant*

In the last few years there has been throughout the United States a great awakening to the importance of the study of the mother tongue. In colleges, in high schools, and even in the "grades" there is a great growth of interest in the English language, the English literature, and the means of attaining force and fluency in English composition.

In accordance with this widespread movement, the English courses in the Agricultural and Mechanical College have within the last two years been considerably augmented. The work required of Freshmen has been increased from three hours to four hours throughout the year, the required Sophomore work from two hours to four hours throughout the year, the elective work in each term of the Junior year from two to five hours, and that in each term of the Senior year from four to five hours.

SUBJECTS

1*a-b-c*. Freshman year, fall, winter, and spring terms; four hours.

This course comprises (1) a study of the elementary principles of composition, (2) practice in composition, and (3) an introduction to literature. The work in each of these three subdivisions continues throughout the year. In composition, the text is used but sparingly, the work being based chiefly upon numerous short themes and occasional longer ones written by the members of the class. Frequent individual conferences between student and teacher are an essential part of the work. Text, fall term: Pearson's Principles of Composition, 50c, (D. C. Heath & Co., Boston); winter and spring terms: Scott and Denney's Paragraph-Writing, $1.25, (Allyn & Bacon, Chicago). In literature, the following are carefully studied,—fall term: Poe's Tales and Poems, 15c, Riverside Literature Series, No. 119, (Houghton, Mifflin & Co., Boston); Shakespeare's Macbeth or Merchant of Venice, 25c, Arden edition, (D. C. Heath & Co., Boston); winter and spring terms: Byron's Prisoner of Chillon and Other Poems, 15c, Riverside Literature Series, No. 128, (Houghton, Mifflin & Co., Boston); Arnold's Sohrab and Rustum, 15c, same series, No. 132; Scott's Quentin Durward, 25c, Handy Pocket Classics, (The MacMillan Co., New York). Other literature is read under the supervision of the instructor. Throughout the year students must have access to an unabridged dictionary; they are urged to buy either the International, the New International, or the Standard. (Mr. Seldomridge and Mr. Stewart.)

2*a-b-c*. Sophomore year, fall, winter, and spring terms; four hours.

The work of the Sophomore year comprises (1) a brief review of English grammar, (2) the systematic study and practice of the forms of discourse, and (3) a study of some of the best English and American literature, both prose and poetry. The review of grammar extends over the first four or five weeks of the fall term, closing with a final examination upon which students must make a grade of not less than C. The remainder of the year is devoted to the study and practice of the forms of discourse and to the reading of literature. The students in English 2 are grouped in recitation sections corresponding to the course in which they are specializing, all engineering students, for example, being grouped together. This arrangement makes it possible to adapt the instruction to the specific needs of the various groups of students, and the book used as the basis of work in composition is suited to such adaptation; it is not a text-book, but a collection of specimen prose of all varieties; namely, Specimens of Prose Composition, Nutter, Hersey and Greenough, $1.25, (Ginn & Co., Chicago). The literature studied includes the following: English Narrative Poems, 25c, Stevenson's Kidnapped, 25c, (Both in Handy Pocket Classics,—The MacMillan Co., New York); Shakespeare's Romeo and Juliet, 25c, and the Winter's Tale, 25c, (Both in the Arden edition,—D. C. Heath & Co., Boston); Narratives from the

Old Testament, any edition of the Bible. Throughout the year students are required to have convenient access to an unabridged dictionary. (Professor Johnston, Mr. Seldomridge, and Mr. Stewart.)

3. THE PLAYS OF SHAKESPEARE.—Junior year, fall term; five hours.

The first half of the term is given to a careful study of two plays, the aim being to give students a knowledge of the Shakespearian vocabulary and forms of expression, and to acquaint them with the best methods of studying a Shakespearian drama. In the second half of the term several of the best comedies and tragedies are read, as well as two or three plays of less merit which illustrate Shakespeare's genius in various stages of its development. The collateral readings include a limited amount of critical and biographical material. It is not required that students purchase other than the two plays studied during the first half of the term. In the fall of 1910 these will be Twelfth Night and Hamlet. The Rolfe edition is used, price 56c, (The American Book Co., New York). Other plays and abundant critical and biographical materials are reserved in the College Library for the use of this class. (Professor Johnston.)

4*a-b*. MASTERPIECES OF EIGHTEENTH CENTURY LITERATURE.—Junior year, winter and spring terms; five hours.

The Eighteenth Century saw the perfection of the essay, the development of English satiric poetry and prose, the culmination of the so-called classic movement in poetry, the beginning of the romantic movement, and the rise of the English novel. Consequently the writers studied in this course are treated not only as authors but as representatives of the life, the thought, and the resulting literary movements of the times in which they lived. The development of the English novel into definiteness of form and purpose receives particular emphasis in the spring term. With the exception of Cross's Development of the English Novel, price $1.50, (The MacMillan Co., New York,) all of the material for this course is supplied by the College Library. (Professor Johnston or Mr. Seldomridge.)

5. THE POETRY OF TENNYSON.—Senior year, fall term; five hours.

This course is designed to give students a comparatively thorough knowledge of one of the master poets of the Nineteenth Century. Because it is believed that for the great majority of those who earnestly study him Tennyson will prove the gateway to a lifelong love of all great poetry, the course in Tennyson is made to precede the course in the romantic poets (English 6), though this arrangement violates the chronological order. Text: The Globe edition of Tennyson's complete poems, $1.50, (The MacMillan Co., New York). The College Library has recently been supplied with a considerable number of critical works purchased for the students of this course. (Professor Johnston.)

6. THE ROMANTIC MOVEMENT IN ENGLISH POETRY.—Senior year, winter term; five hours.

About one-third of the term is devoted to Wordsworth; the remainder to Coleridge, Byron, Shelley, and Keats. The course is supplemented by lectures and collateral readings tracing the rise and development of the romantic movement. Text: Page's British Poets of the Nineteenth Century, $2.00, (Benj. H. Sanborn & Co., New York). If the student prefers, he may buy any good edition of the complete poems of each of the five poets studied. By clubbing together students have purchased a good edition of the five volumes at less than 50c per volume. (Professor Johnston.)

7. CARLYLE AND RUSKIN.—Senior year, spring term; five hours.

The assignment of work in this course varies from year to year. In the spring of 1911 the following will be studied: Carlyle's Sartor Resartus, edited by MacMechan, 80c; Ruskin's Selected Essays and Letters, edited by Hufford, 60c, (Both published by Ginn & Co., Chicago). (Professor Johnston.)

Department of Mathematics and Astronomy

CARL GUNDERSON, *Professor*
W. P. WEBBER, *Assistant Professor*
A. R. EWING, *Assistant*

All students in the regular courses are required to take geometry through the Freshman year, and algebra through the fall and winter terms of the Freshman year. Engineering students continue the work in algebra through the spring term, and take up more advanced work in mathematics in the Sophomore and Junior years. They may elect differential equations in the fall term of the Senior year. Students in the Science and Literature and Normal Divisions may take the higher mathematics and astronomy as elective work.

SUBJECTS

1*a*. ALGEBRA.—Freshman year, fall term; five hours.

Theory of radicals and exponents; variables and functions; graphs; equivalent equations; quadratic and simultaneous equations. Text, Rietz and Crathorne: College Algebra. Prerequisite, Sub-Freshman Algebra.

1*b*. ALGEBRA.—Freshman year, winter term; four hours.

Mathematical induction; binomial theorem; variation; progressions; complex numbers; logarithms; limits. Text, Rietz and Crathorne: College Algebra. Prerequisite, Mathematics 1a.

1c. ALGEBRA.—Freshman year, spring term; three hours.

Theory of equations; infinite series; partial fractions; permutations and combinations. Text, Rietz and Crathorne: College Algebra. Prerequisite, Mathematics 1b.

2a. PLANE GEOMETRY.—Freshman year, fall term; four hours.

First six chapters of Stone-Millis' Plane Geometry. Fundamental notions; angles; perpendiculars; parallels; triangles; quadrilaterals; polygons; loci; similar triangles; concurrent lines. Text, Stone and Millis: Plane Geometry. Prerequisite, Sub-Freshman Algebra.

2b. PLANE GEOMETRY.—Freshman year, winter term; five hours.

Continuation of 2a. The remaining six chapters. Inequality; circles; metrical relations; areas; constructions; regular polygons. Text, Stone and Millis: Plane Geometry. Prerequisite, Mathematics 2a.

2c. SOLID GEOMETRY.—Freshman year, spring term; five hours.

The relations of lines and planes in space; areas of surfaces; volumes of solids; polyhedrons; cylinders; cones; spheres; spherical triangles and polygon. Text, Stone and Millis: Solid Geometry. Prerequisite, Mathematics 2b.

3. TRIGONOMETRY.—Sophomore year, fall term; five hours.

The development and use of trigomometric functions; relations between the functions; logarithms; solution of triangles; application to practical problems throughout the course. Text, Ashton and Marsh: Plane and Spherical Trigonometry. Prerequisite, Mathematics, 1c; Mathematics, 2c.

4a. ANALYTIC GEOMETRY.—Sophomore year, winter term; three hours.

The reference of points and lines to coordinate axes and the deduction of the equations of straight lines and of the curves of conic sections. Text, Tanner and Allen: Analytic Geometry. Prerequisite, Mathematics 3.

4b. ANALYTIC GEOMETRY.—Sophomore year, spring term; three hours.

The general equation of the second degree; solid analytic geometry. Text, Tanner and Allen: Analytic Geometry. Prerequisite, Mathematics 4a.

5. ASTRONOMY.—Sophomore year, spring term; four hours.

The celestial sphere; reference lines and astronomical measurements; the solar system; laws of motion; evolution; stars; comets;

nebulae; structure of the universe. Text, Young: Elements of Astronomy. Prerequisites, Mathematics 1b; Mathematics 2c.

6*a*. CALCULUS.—Junior year, fall term; four hours.

The subject is developed from the method of limits; infinitesimals; rates; maxima and minima; partial differentiation; applications. Text, Murray: Infinitesimal Calculus. Prerequisite, Mathematics 4b.

6*b*. CALCULUS.—Junior year, winter term; four hours.

Continuation of Mathematics 6a and introduction to integral calculus. Text, Murray: Infinitesimal Calculus. Prerequisite, Mathematics 6a.

6*c*. CALCULUS.—Junior year, spring term; four hours.

Integral calculus with application to problems in areas, volumes, center of gravity and other problems chosen from engineering life; expansion of functions. Text, Murray: Infinitesimal Calculus. Prerequisite, Mathematics 6b.

7. DIFFERENTIAL EQUATIONS.—Senior year, fall term; three hours.

This is an elective course; it deals with the solution of those differential equations that are most important to the engineer. Text, Murray: Differential Equations. Prerequisite, Mathematics 6c.

Department of Political Economy and Social Science

CHARLES J. BUSHNELL, *Professor*

It is coming to be generally recognized that our social relationships have been recently multiplying beyond our power of adequately understanding or controlling them. Travel has suddenly enlarged our horizon; markets have become world-wide; vast industrial organizations, undreamed of by the forefathers, have sprung up to control trade and commerce and shape thought itself; our standards of thought and habits of life have undergone an immense transformation in the last half century. These conditions have raised an urgent public demand for a more thorough study of the social sciences of economics, government and sociology. Both inside and outside of our colleges they are becoming increasingly important. Economics deals with the fundamental laws and facts of the business world; govern-

ment is concerned with the principles and organizations by which we strive to control the great social forces and institutions of society in the interest of justice; and sociology endeavors to point out the fundamental principles of all association and social development, whereby we may hope to attain a happier social order and freer and nobler individual life. It is the aim of this department so to train the student through accurate observation, and sound and generous reasoning, in these social sciences, that he may go out from this institution to "live above the fog in public duty and in private thinking".

The equipment of the department consists of a number of excellent charts and books. The College Library contains many valuable reference works. Important volumes have recently been added and the department will continue to add others as the courses demand and the available fund permits. The text-book in each course is simply the basis for the term's work, and especially in the upper classes, considerable library reference work will be required. Lectures and student reports will supplement the courses.

SUBJECTS

1. COMMERCIAL USAGES.—Senior year, fall term; four hours.

   Primarily a course on the principles and practical methods of business organization and management, including the business aspects of farming, banks and how to deal with them, methods of wholesaling and retailing, direct selling, factory management, markets, advertising, credit and collections, insurance, corporate organization, etc. Text, Sparling: "Business Organization" with collateral use of Parsons: "Business Administration".

2. PRINCIPLES OF POLITICAL ECONOMY.—Junior year, fall term; four hours.

   The subject covers a careful discussion of the fundamental natural laws of production, distribution and consumption of wealth, of the labor movement in England and America, the development of capital, growth of monopoly, problems of the tariff, money, credit, banking, public finance and industrial progress. Text, Seager: "Economics", Briefer Course.

3. INDUSTRIAL COMBINATIONS.—Junior year, winter term; four hours.

   The subject takes up the conditions of the industrial revolution that have brought about our present gigantic business organiza-

tions, analyzes the methods they employ and their influence on our national life, and attempts to formulate the best means of controlling them in the interests of justice and public welfare. Text, Jenks: "The Trust Problem".

4. AGRICULTURAL ECONOMICS.—Junior year, spring term; four hours.

A careful study of the special economic principles of agriculture, including the organization of the farm, conditions determining prices of agricultural products, farm rents, distribution of incomes, farm accounts, methods of acquiring land with special attention to co-operative enterprises and the best means and methods of improving rural life. Text, Taylor: "Agricultural Economics", with collateral use of Fairchild: "Rural Wealth and Welfare"; Kern: "Among County Schools"; and the Report of the U. S. Commission on Country Life.

5. PRINCIPLES OF SOCIOLOGY.—Senior year, fall term; four hours.

With a preliminary survey of the conditions of primitive life and the principles of social psychology and social organization, the course traces the development of the great human institutions of the family, the economic classes, the state, the church, the school and the higher life; and concludes with special attention to the factors involved in social progress and morality. Text, Dealey: "Sociology".

6. THE DUTIES OF AMERICAN CITIZENSHIP.—Senior year, winter term; four hours.

With a preliminary survey of important social conditions in the United States, the course takes up the most practical methods of social betterment in respect to the family, neglected children, the working men, rural communities, public health, the great cities, the church, the great corporations and the government. Text, Henderson: "Social Duties", with the collateral use of Strong: "Challenge of the City", etc.

7. WOMEN'S WORK AND WAGES.—Senior year, spring term; four hours.

The course is designed to give the young women of the College, especially, a broad and clear view of woman's present social position and serious problems in the business world, in the home, in philanthropy and in the state, with special attention to the historic changes in her employments and her present efforts for economic independence and moral and social freedom. Text, Abbott: "Women in Industry", with collateral use of Mason: "Woman's Share in Primitive Culture", and other works.

8. GOVERNMENT.—Senior year, spring term; four hours.

A study of the forms through which governments have evolved from the patriarchal monarchy through the aristocracy and the

plutocracy to the ideal democracy; a discussion of the principles of democracy, of the forms and actual practices of our American national, state and local governments, their constitutional development, and their problems. Text, Ashley: "The American Federal State" or Hart: "Actual Government", with auxiliary use of Dealey: "Government", and other works.

Department of German and Latin

BOYD A. WISE, *Professor*

A three years' course is offered in both German and Latin. No previous knowledge of German is required, but students wishing to enter College Latin must had have the equivalent of the Sub-Freshman Latin.

SUBJECTS

GERMAN

1. BEGINNERS' COURSE.—Sophomore year, fall, winter, and spring terms; four hours.

Mastery of inflections and of the elements of syntax. Reading of easy narrative prose. Written and oral translation from English to German. Conversation. Especial attention is given to acquiring a correct pronunciation. Daily practice throughout the year results, with a majority of students, in an accurate and facile pronunciation. Texts: Vos, Essentials of German; Heyse, L'Arrabiata; Huss, German Reader; von Hillern, Hoher als die Kirche.

NOTE.—This course is elective for Juniors of the Agricultural Division.

2. ADVANCED READING COURSE.—Junior year, fall, winter, and spring terms; five hours.

The reading of prose is continued during the fall term. Syntax is reviewed, studied more intensively, and verified by constant reference to the grammar in explanation of the text read. One hour a week will be given to conversational German based on sight reading or centered upon a selected topic for which the vocabulary has been memorized. The spring term is devoted to reading scientific German. Weekly compositions. Texts: Mosher, Willkommen in Deutschland; Bacon, Im Vaterland; Schiller, Wilhelm Tell; Scheffel, Der Trompeter von Sakkaingen; Wait, German Science Reader; Harris, German Composition; Thomas, German Grammar; Vos, Materials for German Conversation.

NOTE.—This is the course referred to as elective for Seniors of the Agricultural Division.

3. MASTERPIECES, GERMAN LITERATURE.—Senior year, fall, winter, and spring terms; four hours.

Classics and modern literary German occupy most of the time, but scientific German of difficult character is read in the spring term, and written translations from current scientific magazines are required from time to time. Texts: Goethe, Hermann and Dorothea; Lessing, Minna von Barnhelm; Schiller, Die Braut von Messina; Goethe, Faust; Heine, Die Harzreise; Suderman, Frau Sorge; Kayser, Die Electronentheorie; Lassar-Cohn, Die Chemie in taglichen Leben; Kron, German Daily Life; Priest, Brief History of German Literature.

LATIN

1. CAESAR.—Sophomore year, fall, winter, and spring terms; five hours.

Five books of the Gallic War are read. Methods of translation are carefully taught until the student reaches the point where diligence alone will give mastery. Constant drill in forms, syntax and pronunciation. Weekly composition. Texts: Kelsey's Caesar; Bennett's Latin Grammar; Bennett's Preparatory Latin Writer.

2. CICERO, OVID, VERGIL.—Junior year, fall, winter and spring terms; five hours.

Six books of Cicero's orations, including the four against Catiline. Selections from Ovid's Metamorphoses. Six books of Vergil's Aeneid. Study of the hexameter. Weekly composition. Texts: Kelsey's Cicero; Gleason's A Term of Ovid; Allen and Greenough's Vergil; Bennett's Latin Grammar; Daniell's New Latin Composition.

3. LIVY, HORACE AND CATULLUS.—Senior year, fall, winter, and spring terms; five hours.

This course must be preceded by courses 1 and 2. Texts: Burton's Selections from Livy; Shorey and Kirkland's Horace; Merrill's Catullus.

Department of Public Speaking

H. G. SELDOMRIDGE, *Instructor*

The aim of the course is to stimulate thinking, to develop the organic means of revealing thought—the voice and the body—by training them to be more flexible and responsive to the mind, or by bringing them under better control, and to secure a better knowledge of the right modes of execution and greater skill in their use. The work lays hold upon and develops the imagina-

tion, trains the intellect to grasp more keenly (in order to give again), recognizes the emotional nature as the motive force in all life, and endeavors to make mind, voice, and body responsive to the soul.

SUBJECTS

1. VOCAL EXPRESSION (General Course).—Freshman year, spring term; four hours practicum.

   This course is devoted to action of the mind, voice and body in the expression of thought and emotion. The student receives vocal training and harmonic gymnastics. Required of all men in the Freshman class.

In the winter term of the Junior year, public speaking is an elective in the Science and Literature Division and a required subject in the Domestic Science and Arts Division. Students who take the work may select any of the following courses for which they are prepared:

2. PUBLIC SPEAKING.—Junior year, winter term; two hours practicum.

   The work seeks to develop the proper use of the imagination, control of the emotion, sympathetic identification, and an understanding of purposes in oratory. Special emphasis is laid upon originality of thought and its value in the interpretation of literature. The voice is trained for range, flexibility and tone-color.

3. ARGUMENTATION AND DEBATING.—Junior year, winter term; two hours practicum.

   Argumentative discourses in outline and detail. Practice in debating, with criticism.

4. EXTEMPORANEOUS SPEAKING.—Junior year, winter term; two hours practicum.

   The work aims to develop facility in thinking and speaking before an audience. Open only to such students as have passed in Course 1 with a grade of not less than B.

5. METHODS OF TEACHING READING IN THE PUBLIC SCHOOLS.—Junior year, winter term; two hours practicum.

   A course is given consisting of graded and progressive steps, with principles of training. Programs of exercises for the voice and practical problems adapted to the needs of pupils of the primary, grammar, and high-school grades are arranged. Students also receive training in thinking, vocal expression, and harmonic gymnastics.

NOTE.—In the course in public speaking two hours per week in the class room are given counting as one hour of credit.

TEACHERS' NORMAL DIVISION

The Normal Division of the Agricultural and Mechanical College assumes for its field the strictly professional and technical work, and the nature of this field determines the place and value of each subject offered. The handling of every subject has the teaching purpose strictly in view, the one aim being to develop a distinctive teaching atmosphere. The literary, scientific and industrial work required of the Normal students is done in those departments of the College having special facilities and equipment for teaching these branches efficiently and with greatest economy to the prospective teacher.

The subjects of the Teachers' Normal Division are taught by the following departments:

The Department of Pedagogy and History.
The Department of Zoology and Veterinary Science.
The Department of Mechanical and Electrical Engineering.
The Department of Civil Engineering.
The Department of Horticulture and Botany.
The Department of Agronomy.
The Department of Domestic Science.
The Department of Dairying.
The Department of English.
The Department of German and Latin.
The Department of Animal Husbandry.
The Business Department.
The Department of Music.
The Department of Mathematics and Astronomy.
The Department of Chemistry, Metallurgy, and Mineralogy.
The Department of Political Economy and Social Science.
The Department of Entomology.
The Department of Public Speaking.

Outline of Courses in Teachers' Normal Division, Giving Subjects and Hours

The figure and letter, following the departmental name, signify the serial number of the subject and whether the term's work indicated is the first (*a*), second (*b*), or third (*c*) term's work in the same subject, and the figures in column at the right of the name indicate the number of hours per week the subject is taught, classroom

hours without parentheses, practicum hours in parentheses. The practicum period is two hours in length, and is equivalent to one hour classroom work in estimating number of hours per week to be taken. Students must take, including electives, at least eighteen hours work per week and not more than twenty-three hours, without special permission. Junior electives are open to Seniors and Senior electives to Juniors, upon approval of adviser and heads of departments concerned.

FRESHMAN YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 1*a* 4	English 1*b* 4	English 1*c* 4
Mathematics 1*a* ....5 (Algebra)	Mathematics 1*b* ....4 (Algebra)	Mathematics 2*c* .....5 (Solid Geometry)
Mathematics 2*a* .....4 (Plane Geometry)	Mathematics 2*b* ....5 (Plane Geometry)	Physics 1 .....4 (2) (Ele. Physics)
History 1*a* .....4 (Ancient History)	History 1*b* .....4 (Mediaeval His.)	Mathematics 1*c* .....3 (Algebra)
Animal Hus. 1*a* (Men) ..... (4) (Stock Judging)	Animal Hus. 1*b* (Men) ..... (4) (Stock Judging)	or Botany 1.....3 (4) (Ele. Botany)
Drawing 1*a* ..... (4) (Ele. Drawing)	Drawing 1*b* (Women) ..... (4) (Object Drawing)	Drawing 1*c* ..... (2) (Ele. Design)
Domestic Arts 1*a* (Women) ..... (2) (Sewing)	Domestic Arts 1*b* (Women) ..... (2) (Sewing)	Domestic Arts 1*c* (Women) ..... (2) (Sewing)
Domestic Arts 2*a* (Women) ..... (2) (Millinery)	Domestic Arts 2*b* (Women) ..... (2) (Millinery)	Domestic Arts 2*c* (Women) ..... (2) (Millinery)
	Engineering 1 (Men) ..... (4) (Woodwork)	Public Speaking 1 (Men) ..... (4) (Vocal Expression)

SOPHOMORE YEAR

English 2*a* 4	English 2*b* 4	English 2*c* 4
Chemistry 1*a* .....3 (4) (Inorganic Chem.)	Chemistry 1*b* .....3 (4) (Inorganic Chem.)	Chemistry 1*c* .....3 (4) (Inorganic Chem.)
Zoology 1 .....3 (4) (General Zoology)	History 2 .....4 (English History)	History 3 .....4 (American History)
Agronomy 9 .....3 (Ele. Agriculture)	Domestic Sci. 1*a*....1 (Hygiene)	Domestic Sci. 1*b*....1 (Sanitation)
	Domestic Sci. 2*a*....1 (Theory of Cooking)	Domestic Sci. 2*b*.....1 (Theory of Cooking)
	Domestic Sci. 3*a*..... (4) (Cooking Practicum)	Domestic Sci. 3*b*.... (4) (Cooking Practicum)

SOPHOMORE ELECTIVES

German 1*a* .....4 (Beginners' Course)	German 1*b* .....4 (Beginners' Course)	German 1*c* .....4 (Beginners' Course)
Dairying .....3 (4) (Farm Dairy)	Agronomy 2 .....3 (4) (Soils)	Agronomy 4 .....3 (2) (Farm Crops)
Mathematics 3 .....5 (Trigonometry)	Mathematics 4*a* ....3 (Analytic Geom.)	Mathematics 4*b* ....3 (Analytic Geom.)
History 1*c* .....4 (Modern History)	Agronomy 10 .....4 (2) (Geology)	Mathematics 5 .....4 (Astronomy)
Music 2 (4)	Music 2 (4)	Music 2 (4)
Latin 1*a* .....5 (Caesar)	Latin 1*b* .....5 (Caesar)	Latin 1*c* .....5 (Caesar)
	Domestic Arts 4 ...1 (Textiles)	Drawing 5 .....2 (Teaching of Draw.)
		Horticulture 2 .....4 (Vege. Gardening)

JUNIOR YEAR

Pedagogy 1 .....5 (Psychology)	Pedagogy 2 .....5 (Hist. of Education)	Pedagogy 3 .....5 (Methods & Man.)
Music 2 (4)	Music 2 (4)	Music 2 (4)

JUNIOR ELECTIVES

FALL TERM	WINTER TERM	SPRING TERM
Pedagogy 6 .....2 (H. S. Teaching)	Pedagogy 7 .....2 (H. S. Adminis.)	Pedagogy 8 .....2 (School Supervision)
Botany 2 .....3 (4) (Plant Histology & Physiology)	Botany 4 .....2 (2) (Plant Pathology)	Botany 5 .....1 (6) (Sys. Botany)
Chemistry 2 .....3 (4) (Adv. Inor. Chem.)	Chemistry 5 .....2 (6) (Industrial Chem.)	Chemistry 6 .....2 (6) (Chemical Engi.)
Physiology 1 .....3 (4) (Adv. Physiology)	Chemistry 3*a* .....1 (Chem. Review)	Chemistry 3*b* .....1 (Chem. Review)
Domestic Sci. 5*a*....1 (Social Observ.)	Domestic Sci. 5*b*.....1 (Social Observ.)	Chemistry 7 .....2 (6) (Int. Orgar. Chem.)
Domestic Sci. 6*a*....1 (Theory of Cooking)	Domestic Sci. 6*b*....1 (Theory of Cooking)	Domestic Sci. 6*c*.....1 (Theory of Cookirg)
Domestic Sci. 7*a*.... (2) (Cooking Practicum)	Domestic Sci. 7*b*.... (2) (Cooking Practicum)	Domestic Sci. 7*c*.... (2) (Cooking Practicum)
Domestic Arts 6.....2 (Drafting)	Domestic Arts 7..... (2) (Cutting & Fitting)	Domestic Arts 8..... (4) (Dressmaking)
Latin 2*a* .....5 (Cicero)	Latin 2*b* .....5 (Ovid)	Latin 2*c* .....5 (Vergil)
Social Science 2 ....4 (Prin. of Pol. Econ.)	Social Science 3.....4 (Industrial Com.)	Social Science 4....4 (Agri. Economics)
Mathematics 6*a* ....4 (Calculus)	Mathematics 6*b* .....4 (Calculus)	Mathematics 6*c* ....4 (Calculus)
English 3 .....5 (Shakespeare)	English 4*a* .....5 (18th Cent. Lit.)	English 4*b* .....5 (18th Cent. Lit.)
German 2*a* .....5 (Advanced Reading)	German 2*b* .....5 (Advanced Reading)	German 2*b* .....5 (Advanced Reading)
Physics 2 .....3 (2) (Sound and Light)	Public Speaking .... (2)	Mathematics 5 .....4 (Astronomy)
Dairying 1 .....3 (4) (Ele. Dairying)	Physics 3 .....3 (2) (Elec. & Mag.)	Civil Engi. 1*a*..... (4) (Surveying)
	Agronomy 2 .....3 (4) (Soils)	Zoology 3 .....2 (4) (Gen. Biology)
	Agronomy 5 .....3 (4) (Soil Physics)	Agronomy 4 .....4 (2) (Farm Crops)
	Animal Hus. 3*a*.....3 (Prin. of Breeding)	
	Animal Hus. 4.....5 (Feeds & Feeding)	
	Zoology 2 .....3 (4) (Histology)	

SENIOR YEAR

Pedagogy 4 .....3 (4) (Theory & Practice)	Pedagogy 5 .....3 (Philos. of Edu.)	History 4 .....3 (Okla. History)
		Public S. Music.....2

SENIOR ELECTIVES

Bacteriology 1 .....3 (4) (General Bac.)	Bacteriology 2 .....2 (4) (Agri. Bacteriology)	Bacteriology 3 .....2 (4) (Tech. Bacteriology)
Botany 6 .....3 (4) (Special Sys. Bot.)	Botany 8 .....2 (6) (Plant Morphology)	Botany 9 .....3 (4) (Plant Morphology)
English 5 .....5 (Tennyson)	English 6 .....5 (Romantic Move.)	English 7 .....5 (Carlyle & Ruskin)
German 3*a* .....4 (Masterpieces)	German 3*b* .....4 (Masterpieces)	German 3*c* .....4 (Masterpieces)
Latin 3*a* .....5 (Livy)	Latin 3*b* .....5 (Horace)	Latin 3*c* .....5 (Catullus)
Social Science 1....4 (Com. Usages)	Social Science 6....4 (Amer. Citizenship)	Social Science 7....4 (Woman's Work and Wages)
Social Science 5....4 (Prin. of Sociology)	Zoology 4 .....2 (4) (Embryology)	Social Science 8....4 (Government)
Mathematics 7 .....3 (Differ. Equations)	Music 2 (4)	Music 2 (4)
Music 2 (4)	Entomology 4 .....2 (4) (Biological Ento.)	Entomology 5 .....3 (4) (Scientific Ento.)
Entomology 3 .....3 (4) (Econonmic Ento.)	Chemistry 8*b* .....2 (6) (Adv. Organ. Chem.)	Chemistry 13 .....2 (6) (Adv. Gen. Chem.)
Chemistry 8*a* .....2 (6) (Adv. Organ. Chem.)	Chemistry 11 .....2 (4) (Metallurgy)	Horticulture 3 .....2 (2) (Forestry)
Chemistry 9 .....2 (4) (Mineralogy)	Chemistry 12*a* .....2 (6) (Thesis)	Thesis .....5 (Any Department)
Chemistry 10 .....3 (4) (Agri. Chemistry)	Agronomy 8*a* .....4 (2) (Soil Fertility)	Horticulture 8 .....2 (2) (Landscape Gard.)
	Animal Hus. 7.....4 (2) (Live Stock Man.)	

Department of Pedagogy and History

JOHN H. BOWERS, *Professor*

SUBJECTS

PEDAGOGY

1. PSYCHOLOGY.—Junior year, fall term; five classroom periods per week.

The primary purpose of this course is to teach the conditions, processes and laws of mental development; and to understand the motives and forces that give rise to human conduct. The psychology of childhood and of adolescence is presented in its practical phases for the benefit of teachers. Other topics are: The relation of the body to mental activity and development, fatigue, temperament, imitation, suggestion, apperception, attention, association of ideas, imagination, memory, emotion, will, thinking, the laws of expression, and the relation of ideals to conduct. Students will prepare for, and verify the class discussions by readings from a number of authorities, including the following: James, Dewey, Angell, Baldwin, Tichener, Thorndike, Bowne, Judd, Wundt and Stout.

2. HISTORY OF EDUCATION.—Junior year, winter term; five classroom periods per week.

The purpose of this course is to arrive at correct notions of what ought to be done in the light of what has been done. The diversity of educational ideals in different countries and in different ages is studied to understand present conditions and the best methods for future advancement. The further aim is to create a deep interest in the lives and works of great educators as a source of inspiration and guidance. Monroe will be used as a text, with some attention to other works.

3. METHODS AND MANAGEMENT.—Junior year, spring term; five classroom periods per week.

The aim of this course is to present the general methods of learning and of teaching, followed by the special methods of teaching the different school subjects. The further aim is to study the problems of school gradation, classification, organization, and government; also that of securing the co-operation of the community, making conditions favorable for intellectual development and promoting the general welfare of the school. Students will prepare for the class discussions by reading assignments from such books as Bagley's Educative Process, O'Shea's Education as Adjustment, McMurry's General Method, Method of the Recitation, Special Method in History, Special Method in Geography, Special Method in Elementary Sciences, Mace's Method in History, Bagley's Classroom Management, White's School Manage-

ment, Spencer's Education, Roark's Method in Education, and Dutton's School Management. Teachers completing this course will receive credit for same on teachers' certificates.

4. Theory and Practice of Teaching.—Senior year, fall term; three classroom periods and four practicums per week.

The theoretical part of this course deals with such topics as, the teacher before the class; conducting the recitation; training pupils to study and to think; teaching pupils the art of securing, retaining and expressing useful knowledge; and the various means of developing the several school subjects. As far as possible the practice work of this course is planned to suit the needs and promote the welfare of the individual student-teacher. In theory, the reading is done from such books as McMurry's How to Study, Hinsdale's Art of Study, Schaeffer's Thinking and Learning to Think, Arnold's How to Teach Reading, White's Art of Teaching, Thorndike's Principles of Teaching.

5. Philosophy of Education.—Senior year, winter term; three classroom periods per week.

This course deals with such problems as the philosophy of the learning process; educational psychology; the nature of education, its possibilities and its limitations; physical education; religious education; intellectual development; moral education; educational aims and values; education for discipline, for culture and for efficiency; individual and social education. The classroom discussions will be supplemented by readings from such works as Horne's The Philosophy of Education, Rosenkranz's Philosophy of Education, Grigg's Moral Education, Scott's Social Education, Davenport's Education for Efficiency, O'Shea's Social Development and Education, Dutton's Social Phases of Education, Hanus' Educational Aims and Educational Values, and Butler's The meaning of Education.

6. High School Teaching.—Junior year, fall term; two classroom periods per week.

This course is devoted to the best methods of teaching high school subjects. General lectures will be supplemented by assigning to each individual student reading along the lines of his interests and his specialization. Some of the books so used are: Smith's Teaching of Mathematics; Lloyd and Bigelow's Teaching of Biology; Smith and Hall's Teaching of Physics and Chemistry; Bourne's Teaching of History and Civics; Carpenter, Baker and Scott's Teaching of English; Young's Teaching of Mathematics.

7. High School Administration.—Junior year, winter term; two classroom periods per week.

This course will deal with the curriculum, the organization and the management of the high school. The text-books used are:

Hollister's High School Administration and Brown's The American High School with reference to other works and to periodical literature.

8. SCHOOL SUPERVISION.—Junior year, spring term; two classroom periods per week.

The work in this course is devoted to the practical problems of public school organization and administration. Some of the topics are: The course of study, teachers' meetings, securing harmony and co-operation, the relation of the several school factors,—directors, principals, teacheres and students, school buildings, equipments and general educational interests. The books used are: Chancellor's Our Schools, Their Administration and Supervision, Roark's Economy in Education, Gilbert's The School and Its Life, Shaw's School Hygiene, Burrage and Bailey's School Sanitation and Decoration. Whenever there is a call for work in rural school supervision, such work will be offered.

HISTORY

The study of history from the standpoint of general culture as well as that of specific educational value, is becoming increasingly appreciated. The aim of this department is to give, in so far as the limited time apportioned to it will permit, a general view of the social, economic and political development; to train the student *toward* original thinking, and to fit him for intelligently assuming the duties of citizenship.

The College Library contains many valuable reference works. The text-book in each course is the basis of the course, and some library reference work will be required. Lectures and student reports will form part of the work.

1*a*. ANCIENT HISTORY.—Freshman year, fall term; four hours.

The story of the careers of the great men and women of antiquity and of the rise and fall of the ancient nations and civilzations to 476 A. D., with special emphasis upon the contributions that Greece and Rome have made to modern civilization. Text, West: "Ancient History".

1*b*. MEDIAEVAL HISTORY.—Freshman year, winter term; four hours.

The course recounts the beginnings of modern Europe out of the ruins of the ancient world; the development of the great institutions of the church, of feudalism and of the culture and customs of the Middle Ages to the Renaissance and the Discovery of America. Text, Robinson: "History of Western Europe" to page 321.

1c. MODERN HISTORY.—Sophomore year, fall term; four hours.

An outline study of the great series of revolutions, inventions, discoveries and artistic achievements since the Renaissance, that have brought into being the modern nations of Europe; with a consideration of their present national problems and their probable future. Text, Robinson: "History of Western Europe"—page 321 to the end.

2. ENGLISH HISTORY.—Sophomore year, winter term; four hours.

A brief survey of the rise and development of the English nation, with particular attention to the growth of the free, Anglo-Saxon forms of government, and modern democracy, and especially to the influence of the Industrial Revolution on modern life. Text, Cheyney: "A Short History of England".

3. AMERICAN HISTORY.—Sophomore year, spring term; four hours.

With a brief survey of our colonial history and early struggles for independence, the course takes up a more detailed study of our later constitutional, social and political development; the growth of democracy, the struggle for the Union, the rise of the corporations, and the problems of civic justice and social welfare today. Text, Elson: "History of the United States".

4. HISTORY AND CONSTITUTION OF OKLAHOMA.—Senior year, spring term; three hours per week.

A history of the political, industrial and educational upbuilding of the Commonwealth of Oklahoma, suitable for properly informing the citizen for intelligent discharge of important civil duties, and for equipping the teacher to handle the subject successfully in the public schools. Text, Thoburn and Holcomb: "History of Oklahoma".

BUSINESS DIVISION

R. A. COVERDALE, *Principal*
S. C. BEDINGER, *Assistant*
J. C. SKILLMAN, JR., *Assistant*

All the work of the Business Department is closely associated with the high grade of class instruction given in the College Course. Students desiring this course must pass examinations in reading, spelling, penmanship, geography, United States history, grammar, and arithmetic.

Applicants may be admitted to the department without examination on satisfactory records from the eighth grade of city schools or on diplomas from common schools.

All applicants for this course must have attained the age of eighteen years.

Students of more mature age may, with the consent of the President, take special courses consisting of just such subjects as they may elect.

Two courses of instruction are offered by the department, viz: (*a*) Business; (*b*) Stenographic.

The subjects of the Business Division are taught by the following departments:

The Department of Bookkeeping.
The Department of Stenography.
The Department of English.
The Department of Mathematics and Astronomy.
The Department of Pedagogy and History.

These courses enable many young men and women to become efficient salaried employes by providing instruction in the fundamental subjects of a general education and training them as expert accountants, stenographers and clerks.

Outline of Courses in the Business Division, Giving Subjects and Hours

BUSINESS COURSE

FALL TERM	WINTER TERM	SPRING TERM
Bookkeeping ..... (10)	Bookkeeping ..... (10)	Business Practice.... (10)
Spelling 2	Spelling 2	Spelling 2
Penmanship ..... (3)	Penmanship ..... (3)	Penmanship ..... (3)
English 5	English 5	Business Corres.....5
Arithmetic 5	Arithmetic 5	Rapid Calculation....5
Com'l Law 5		

COURSE IN STENOGRAPHY

Shorthand Th. 5	Dictation ..... (10)	Dic. & Of. Prac. .. (10)
Dic. & Of. Prac..... (10)	Shorthand Th. 5	Theory & Dic. 5
Theory & Dic. 5	Dic. & Of. Prac. .... (10)	Shorthand Th. 5
Penmanship 3	Penmanship 3	Penmanship 3
Spelling 2	Spelling 2	Spelling 2
Typewriting ..... (10)	Typewriting ..... (10)	Typewriting ..... (10)
English 5	English 5	Bus. Corres. 5

Students must elect up to eighteen hours per week and not more than twenty-three hours.

Business Course

The Business Course embraces bookkeeping, banking, spelling, penmanship, commercial law, commercial arithmetic, rapid calculation, English, and business correspondence. A brief description of the work follows.

SUBJECTS

BOOKKEEPING.—Ten hours practice per week.

Since the principles of bookkeeping are constant, it is the aim of the department to so thoroughly familiarize the student with these principles that he can take charge of any set of books and keep them intelligently and accurately. This course runs through three terms. Texts, Williams and Rogers, and Twentieth Century. (Professor Coverdale.)

The **Introductory** work deals with elementary bookkeeping, bringing into use the ordinary books of account. Special emphasis is placed on the journal, day book, ledger, posting, closing, making financial and business statements, old style balance sheet, and trial balance. Much attention is given to writing the common business forms, such as drafts, leases, notes, checks, bills, telegrams, receipts. Students who have finished this section of the work satisfactorily are well trained bookkeepers, and are qualified to enter an office and do the work in a practical, reliable and systematic manner.

The **Advanced** work follows the Introductory in a natural and easy order. The student works out sets in corporation bookkeeping, commission and consignments, wholesale and retail, and manufacturing. In this, as well as in the Introductory, the work is designed to teach bookkeeping as it is practiced in the best

business houses. In this section are illustrated loose leaf consignment sheets, impression sales book, letter copying book, daily abstract sales, charge and cash sales, card ledger; organization and management of corporations, factory costs, and accounts kept by the voucher method. A thorough drill is also given in single entry bookkeeping.

Banking—Part I of this subject deals with: The business of a bank; different kinds of banks; bank officers and clerks; banking customs. Part II is devoted to bank accounting. Here the student performs in turn the work of receiving teller, paying teller, bookkeeper, and that of the other clerks of a bank. Part III contains a clear statement of the following subjects: Clearing house, foreign exchange, letters of credit and travelers' checks.

Actual Business—Upon completion of the Introductory and Advanced work in bookkeeping, and banking, the class is resolved into a minature business world. Each student provides himself with the necessary books and business forms for carrying on an actual business. Each student is supplied with a cash capital sufficient to start him into business. He thereupon leases a building, buys, sells, insures, borrows money, keeps a bank account, ships goods by freight, and makes all trades possible that are common to business life. Thus imitating the business world, he puts into practice every principle of bookkeeping heretofore learned. He makes or loses money—either of which he must show on his books, and should contention arise over some dealing, may in mock trial, sue or be sued. Students in turn have charge of the bank, wholesale and commission offices.

PENMANSHIP.—Three hours theory.

The object of the work in penmanship is fourfold: First, to secure a good position of hand and body and to secure a free and easy movement; second, to secure a knowledge of the forms of the letters; third, to secure such speed as is consistent with legibility and ease; fourth, the application of writing to other forms—especially business forms and correspondence. Stenographers and bookkeepers are required to take penmanship. Text, "The Palmer Method". (Mr. Bedinger.)

SPELLING.—Two hours theory.

All persons taking the business course must carry this subject. Thousands of positions are each year either not secured or lost on account of bad spelling. The value of spelling to the stenographer especially, is obvious. The same is almost equally true with the bookkeeper. The work in spelling is always written. Students are required to make a grade of 95 per cent on examination in the subject before securing diploma. Text, Musselman's "Practical Business Speller". (Mr. Skillman.)

COMMERCIAL ARITHMETIC.—Five hours theory.

The work covered by this subject is the same as that included in any first-class higher arithmetic. More than usual attention is given to the solution of problems, and to the principles of arithmetic as well. **Why** is taught as well as **how.** Text, Payne's "Practical Arithmetic". (Mr. Ewing.)

Rapid Calculation.—Five hours practice.

A subject of vital importance to the accountant. The work of the spring term is devoted almost wholly to rapid addition, short cuts in figuring interest, and to rapid calculation generally. (Mr. Ewing.)

Commercial Law.—Five hours theory.

From a business standpoint, perhaps there is no subject in the course which is worth as much to the student as commercial law. This subject takes up contracts, negotiable paper, partnership, sale of chattels, interest, usury, wills, conveyances of real estate, mortgages, etc. The chief aim of this subject is to inform the student how to keep out of difficulties rather than to enable him to extricate himself after he is once involved. Text, Huffcutt's "Business Law". (Dr. Bowers.)

English.—Five hours theory.

The work is in general divided into three parts: Review of grammar and a thorough study of punctuation, a study of good English based upon Scott's Practical English, and a course in business letter writing. Throughout the course the primary aim is to develop the student's power of expressing himself in speech and in writing. Text, Barton's "A Study of the Sentence".

Business Correspondence.—Five hours theory.

One term is devoted to the subject. The student is given a large amount of practice in writing various kinds of letters—letters of inquiry, recommendation, introduction, duns, bills, remittances, circular letters, telegrams, letters of congratulation and condolence, and so on. A careful study is given to the rules of punctuation, meaning of words, variety of expression. Text, Mayne: "Modern Business English". (Professor Coverdale.)

Stenographic Course

Students having a good common school education may finish the course in shorthand in one school year, nine months. The success and proficiency of the student will depend entirely upon his energy, ability, and previous training. The student who devotes nine months to this work is better prepared to take up the duties of an office or an amanuensis than the student who devotes only five or six months to it. The general requirements of a competent stenographer do not consist simply of the ability to write shorthand. There must be a knowledge of composition, punctuation, capitalization, grammar, spelling, and the proper arrangement of sentences. For this reason students are required

before finishing the course to pass a satisfactory examination upon the subjects named above in addition to the regular examination in shorthand and typewriting.

The course embraces shorthand, typewriting, letter press copying, mimeographing, manifolding, etc., together with spelling, penmanship, and English.

SHORTHAND.

The work in stenography is divided into three parts, viz.: Theory, dictation and office practice. Text, Gregg: "Shorthand".

THEORY.—Five hours.

By shorthand theory is here meant the part of stenography devoted to phonetic spelling, sounds of the letters, principles of the system, word signs, contractions and phrases. All of this work is based on the manual—the Gregg system being the one used. Text, Gregg: "Shorthand". (Mr. Bedinger.)

DICTATION.—Ten hours practice.

The work of theory and that of diction are by no means separate and distinct, since dictation begins early in the theory work, and theory continues through dictation. However, the second division of the work is more largely dictation. During this period, much reading of shorthand is required in order to familiarize the student with forms and to increase the rapidity of reading notes. Before advancing to office practice, the student should develop sufficient ability to write from dictation at an average speed of seventy-five words a minute for a period of half an hour from new matter. He should also be able to write at the rate of one hundred words a minute for five minutes. Text, Gregg: "Speed Practice". (Mr. Bedinger.)

OFFICE PRACTICE.—Ten hours.

The work is what its name implies—office practice. As far as possible the students assist in getting out College bulletins and other matter for the different departments of the College. All of the office work of the Business Department is done by the students. A proper amount of attention is given to manifolding, mimeographing, letter press copying, etc. (Mr. Bedinger.)

TYPEWRITING.

The work in typewriting is necessarily closely connected with that in stenography. While the student is learning shorthand theory, he is also learning the key-board and the use of the various parts of the typewriter. He begins by writing short words, words are followed by sentences, and these by short letters. As soon as the key-board is mastered, the matter of transcription is taken up, and from this on, most of the time is devoted to the

transcription of matter written from dictation. Through the entire course, neatness and accuracy is strongly emphasized. The touch system is used exclusively. For finishing, a speed of fifty words a minute from copy, and thirty words a minute from shorthand notes is required—the work to be free from error. Text, "Rational Typewriting". (Mr. Skillman.)

ENGLISH.

Same as in business course.

SPELLING AND PENMANSHIP.

Same as in business course.

OTHER DEPARTMENTS OF THE COLLEGE

Sub-Freshman Department

.....*Principal*
ED MCCARREL, *Assistant*
SAM GASKILL, *Assistant*
ADA B. HOUSE, *Assistant*

The Sub-Freshman Department of the A. & M. College has for its purpose the preparation of students for entrance to the Freshman year. Following is an outline of the work given:

Outline of Sub-Freshman Course

FALL TERM		WINTER TERM		SPRING TERM	
English	5	English	5	English	5
Algebra	5	Algebra	5	Algebra	5
Am. Hist. or Latin	5	Civics or Latin	5	Okla. His. or Latin	5
Arithmetic	4	Physiology	4	Physiology	4
Etymology and Writing	(2)	Etymology	(2)	Etymology	(2)

ENGLISH.—Fall, winter and spring terms; five hours per week.

The work of the fall term comprises a comprehensive review of English grammar, together with a study of capitalization and punctuation. The work of the winter term is based upon Scott's Practical English. In this term special attention is paid to letter forms and paragraphing. The spring term is devoted to the beginning of literary study and of composition.

ALGEBRA.—Fall, winter and spring terms; five hours per week.

The main purpose of the elementary course is the solution of practical problems, rather the construction of a purely theoretical doctrine as an end in itself. The course includes an introduction of the equation, positive and negative numbers, involved number expressions, simultaneous equations, graphic solution of problems and quadratic equations. Text, Lennis & Slaught.

LATIN.—Fall, winter and spring terms; five hours per week.

Drill on the essentials of Latin grammar, acquiring of vocabulary, reading stories from Roman history, anecdotes and fables.

PHYSIOLOGY.—Winter and spring terms; four hours per week.

A thorough elementary course in physiology given in lecetures and recitations, supplemented by the use of models, skeleton and charts. Text, Huxley: "Lessons in Elementary Physiology". (Mr. Starin, Department of Zoology and Veterinary Science.)

ARITHMETIC.—Fall term; four hours per week.

This work includes drill in the subjects of fractions, percentage, mensuration and solids.

American History.—Fall term; five hours per week.

A brief review of the colonial period, close attention to the birth and development of the nation, rise of political parties. Text, Hart: "Essentials in American History".

Civics.—Winter term; five hours per week.

This term will be given entirely to the study of the national government. Text, Ashley: "American Government".

Oklahoma History.—Spring term; five hours per week.

Review of the territorial peeriod, and special attention to the transition to statehood and development state government. Text, "Abbot's Oklahoma History".

Etymology.—Fall, winter and spring terms; two practicum hours.

A thorough study of word building, with special reference to the Latin and Saxon elements of the language. Text, Swinton: "Word Analysis".

Department of Music

I. Zackheim, *Professor*
E. Carroll Beach, *Instructor in String and Wind Instruments*
Madge Books Sanders, *Assistant in Piano*
Rose C. Murray, *Assistant in Piano*

Music makes broad claims upon the attention of students because of its generally recognized educational value, its cultural influence on the home life of the people, and its professional claims upon the more talented students of music. The instruction in this department tends toward the musical education and training of a large portion of the student body and free instruction is offered all who desire to select music provided satisfactory progress is made from month to month in the subject.

Students in the Music Department have access to all classes in the several departments of the College and to enhance their general culture, are required to take at least two or three studies throughout the school year, other than the work required in the regular music courses.

Accomplished musicians are always in demand as directors, singers, teachers, accompanists and organists for church, concert

and public school music work. The Music Department offers earnest students the opportunity to acquire scholarly musicianship.

The following courses enable the student to obtain a comprehensive and practical knowledge of music and to acquire skill and power in interpretation. The time required for completing a course will depend upon previous preparation, the talent, ability, and character of the work of each student, but all have privilege of advancing as rapidly as is consistent with good work. Students of the College will be permitted to study music only with instructors connected with the Department of Music.

COURSE IN VOICE CULTURE

FIRST YEAR.—Two lessons per week, practice with instrument one hour or two hours daily; sight reading and ear training, two hours per week.

Exercises will be given for correct breath control, purity of tone production, freedom of action and blending of registers, articulation and correct enunciation of vowels and consonants, elements of phrasing and style. Students will appear on program if required and will attend all recitals and rehearsals unless otherwise instructed. History of music, choir and chorus practice throughout the year. Text, E. Marzo: "The Art of Vocalization", First Book. (Professor Zackheim.)

SECOND YEAR.—Two lessons per week in voice, practice with instrument and without instrument, one or two hours daily; two lessons per week in harmony and history of music; choir and chorus practice throughout the year.

This course consists of exercise for tone placing, phrasing and style, legato, marcato and portamento delivery. Physiology of vocal mechanism, songs and exercises of medium grade in English, German or Latin. All students in this course and year will attend recitals and appear upon programs if required, singing from memory. Text, E. Marzo: "Art of Vocalization", Second Book. (Professor Zackheim.)

THIRD YEAR.—Two lessons per week, in voice. Two lessons per week, harmony and counterpoint. Practice with instrument and without, one to three hours daily. One lessons per week, theory and composition. Choir and chorus practice throughout the year.

This course is devoted to a study of tone color, agility, trill, messadi voce, phrasing and style, songs in English, German, Italian or

French. All students are required to attend all recitals and rehearsals and appear upon programs when requested, singing from memory. (A certificate is granted those completing this course in a satisfactory manner.) Text, E. Marzo: "The Art of Vocalization", Third Book.

Fourth Year.—Two lessons per week, in voice, practice two or three hours daily. Choir and chorus practice throughout the year.

This course embraces advanced work in vocal teaching by means of difficult exercises, songs, oratorios and operas, memory singing in public. Students are required to attend recitals and rehearsals and appear upon programs when requested. (A gold medal will be granted those completing this work satisfactorily.)

COURSE IN PUBLIC SCHOOL MUSIC

The course in music is carefully classified for each of the grades in the public school, the work being carefully outlined to develop the vocal ability, and musical education of the pupils, to suit the particular condition of the mind and the voice of the child, at the average age in each grade. This outline is somewhat as follows:

Rote songs for little folks. Study of "staff", "notes", "scale". Location of "do", or the keynote, in nine different keys. Sight reading and singing, by syllable and by letter. Much attention given to tone quality and rythm. Complete analysis of songs,—as to key signature, meter signature, tempo signs, marks of expression, the different values of notes used, etc. Written work from oral dictation of tones, syllables, or letters. Written work from dictation of rythm. Transposition of songs into different keys. Special practice in music class conducting. Singing at sight, rounds, and 2, 3, and 4 part songs. Thorough practice writing and singing, major, minor, and chromatic scales. "Spelling" and "pronouncing" different triads or chords. A little study of the elements of harmony. (Professor Zackheim and Mr. Beach.)

COURSE IN PIANO

First Year.—Two lessons per week, in piano. Two lessons per week, in harmony. Practice with instrument two to four hours daily.

In this course the students are requested to memorize and play with correct fingering, all major and both forms of minor scales. Legato in quarter and eighth notes. Major and minor chords in triads and four note form. Dominant seventh chord, four note form with all inversions played with sustained arm touch, hands separately. Figured chords in quarter and eighth notes. Octaves and staccato, octaves in any required scale, sight reading, etc. (Miss Sanders and Miss Murray.)

SECOND YEAR.—Two lessons per week, in piano. Two lessons per week, in harmony. One lesson per week, in counterpoint. Practice with instrument, three to four hours daily.

The work of this course requires the students to play from memory with correct fingering, all major, minor and chromatic scales. Major and minor triads, in full chords. Dominant and diminished seventh chords with their inversions. Broken chords played in quarter and eighth notes. Arpeggios form in major or minor triads. Metronome quarter note 100. Staccato octaves in major scale, quarter and eighth notes. Sight reading, recognition of major and minor scales, and all intervals from the tonic of the major scale. (Miss Sanders and Miss Murray.)

THIRD YEAR.—Two lessons per week, piano. Two lessons per week, harmony and counterpoint. Practice with instrument, three to five hours daily.

In addition to the work of the foregoing courses, the student must play from memory with correct fingering, major and minor scales, hands separately and together. Beginning one octave apart, parallel and contrary motion, compass four octaves, in quarter, eighth and sixteenth notes. Triplet rythms in quarter and eighth notes. Metronome quarter note to 120. Tempo scales studied to Metronome quarter note 120 to 130. Major and minor chords in triad and four note form, dominant and diminished seventh chord, four note form, extended and broken, with all inversions and in moderate tempo. Arpeggios formed on the major and minor chords. Be able to transpose easy hymns. (Miss Sanders and Miss Murray.)

FOURTH YEAR.

The technical test in this course will be similar to those in the previous chourses except that the tempo will be increased. Exercises and scales in double thirds, fourths and sixths in parallel motion will be required to be played in quarter and eighth notes. Metronome 80 to 90. Sight playing and transposition. Students will be required to play at sight difficult compositions and must be able to transpose and play at sight in any given key, a simple hymn or chorale. For graduation students are required to perform perfectly under the direction of the Department of Music, a program not less than one hour in length which shall include two or more numbers equal in difficulty to any compositions in the list of Senior pieces:

1. Wagner.	1. Grieg.
2. Chopin.	1. Liszt.
6. Beethoven (Sonatas).	1. Handel.
1. Moskowski.	2. Mozart.
1. Rubenstein.	2. Weber.
2. Mendelssohn.	2. Bach.
2. MacDowel.	

and others that may be selected by instructors. Two lessons per week, piano. Practice with instrument, three to five hours

daily. To satisfactorily complete this course the student must fulfill the requirement above outlined. Students appear on program when required and manifest musicianship, skill and poise. (Miss Sanders.)

COURSE IN THEORY

This course will comprise systematic and progressive study in the elements of music. In this attention will be given to notation, scales, intervals, inversions, melody progression, tempo, dynamics, rythm and ear training. The advanced theory will deal with harmony and counterpoint and subdivisions thereof, concluding with forms and composition. Text for Harmony, S. Jadassohn: "A Manual of Harmony". (Professor Zackheim, Mr. Beach, Miss Sanders, Miss Murray.)

COURSE IN VIOLIN

FIRST YEAR.

Careful attention to proper position of holding the instrument. Exercises for bowing and fingering. Thorough practice in all major and minor (melodic and harmonic) scales. Studies by Dancla, Kayser, Wohlfahrt. Easy solos, duets, etc. (Mr. Beach.)

SECOND YEAR.

Exercises for facility of fingering, and flexibility of bowing. Special attention to rythm, intonation, and expression. Studies by Kayser, Mazas, Schradieck, Kreutzer. Solos of moderate difficulty to be played from memory. Special practice in ensemble playing. (Mr. Beach.)

THIRD YEAR.

Technical exercises continued. Advance studies by Kreutzer, Rode, Fiorillio, Gavines. Sonatas by Bach, Haydn, Mozart. Solos by DeBeriot, Wieniawski, Alard, Vieuxtemps. (Mr. Beach.)

COURSE IN WIND INSTRUMENTS

Students wishing to take lessons on any wind instrument, require two lessons per week on instruments, two years' harmony, one year theory, analysis, counterpoint, orchestration and military band. (Mr. Beach.)

THE BAND.

Instruction will be given by regular College band leader in the use of brass, wood, wind and percussion instruments. To become a member of the College band the student must pass a satisfactory examination before the director as to knowledge of music and ability to perform on certain instruments before securing recommendation to the President for their transfer to the band. The members are required to attend practice three times per week and to perform in public by authority of the President. There is no charge for instruction in the band. The College furnishes instruments, music and music stands to members of band and orchestra. Other students pay one dollar per month in advance for

instruments used in practice when furnished by the College. Those desiring private lessons in band instruments will consult with the director of the department. (Mr. Beach, Leader.)

THE ORCHESTRA.

Any College student who plays on any string or wind instrument has the privilege of the orchestra on approval by the Director of Music. (Professor Zackheim.)

Department of Physical Training

W. E. SCHREIBER, *Director for Men*
E. C. GALLAGHER, *Assistant*
P. J. DAVIS, *Assistant*
MISS E. J. ROSS, *Director for Women*
MISS B. COMBS, *Assistant Woman's Department*

Much of the success of a young man or woman in college and in life after graduation depends on good health. The Oklahoma A. & M. College believes in the old adage, "A sound mind in a sound body". The Department of Physical Education aims to create and maintain a vigorous state of health in every student in the College and its work is so diversified that it meets the individual needs. It strives to keep the student body in the best possible physical condition, for and during their college course, and to lay the foundation for proper living after graduation. It aims to teach the principles of hygienic living and care of the body.

The Men's Gymnasium is a large well lighted room 40x60 feet and contains all of the necessary apparatus for gymnasium work of all kinds. The outfitting is done with the idea of giving the students the advantages to be found in any well regulated college gymnasium. Dumbbells, barbells and Indian clubs will be found there in plenty for mass class drills and of the heavier apparatus there are the flying and traveling rings, the horse, the horizontal bar, the parallel bars, matts, jumping standards, etc. Boxing gloves and fencing foils are also supplied to those desiring to enter into this special work.

In direct connection with the gymnasium is a large locker room with 300 steel and wooden lockers, benches and a well equipped shower room with eight showers for hot and cold baths.

Every student in the College is expected to do some work to keep himself in the best possible physical condition.

The students of the Freshman, Sub-Freshman, Business, and Short Course are required to do a certain amount of work for

which they receive credit necessary for graduation. There are also classes organized for the other students of the College.

The new Woman's Gymnasium located in the Woman's Building will be ready for use at the opening of the school year of 1910-11. This gymnasium will be an unobstructed room 32x63 feet and will be equipped with all of the modern gymnasium apparatus. There will be a locker and dressing room in connection supplied with a large number of steel lockers. There are also shower baths and a swimming pool. In the rear of the building is the woman's outdoor court built by the Girls' Athletic Association. This court will be equipped for all kinds of out-of-door games and exercises.

An athletic field for football, baseball and track and field athletics is provided by the College and maintained by the Athletic Association. Students are encouraged to take part in athletic and out-of-door sports; varsity and class teams are organized and maintained by the Athletic Association and each team is under the supervision of a trained instructor.

Athletics are a part of the physical training work, but whether a student participates in them or not is optional. No student is allowed to become a member of a team until he has been examined by the Director and proven that he is physically fit. A high standard of scholarship is also required of all members of the varsity teams.

Each student in the men's department must provide himself with a gymnasium suit so that there can be a complete change of clothing for the physical training work. This suit consists of a sleeveless shirt (white or black), running trousers and soft soled shoes. These can be procured at a local store at a cost not to exceed $3.00.

In the woman's department a regular costume is required. In order that these may be uniform in pattern and color they are ordered by the College. The cost of the suit including shoes is about $5.00.

COURSES FOR MEN

Course 1.— Physical Examination. Preliminary.

A thorough physical examination is required of all entering students. This examination consists of measurements, strength

tests, examination of the eyes, ears, nose, throat, lungs, heart, and other vital organs, and special stress is laid upon physical deformities and inequalities. These defects are pointed out to the student and exercises to correct them are prescribed. Where necessary, special attention and advice are given to the student. An examination is taken at the beginning and at the end of the first year and at the end of each year after that. (Professor Schreiber.)

COURSE 2.—Required of the Sub-Freshmen of the College; fall, winter and spring terms. Introductory.

This work consists of mass class drills with dumbbells and barbells with deep breathing and abominal mat work. Elementary apparatus work is given on the horse and parallel bars during the fall and winter terms and is replaced during the spring term by out-of-door track and field athletic work. Tennis and baseball are also substituted. Three hours' work a week. Credit given, and required for graduation. (Professor Schreiber and Mr. Gallagher.)

COURSE 3.—Required of the Freshmen of the College; fall, winter, and spring terms.

The work of the Freshman classes consists of mass class drills with the dumbbells, barbells and Indian clubs with elementary apparatus work on the flying rings and horizontal bar and advanced work on the horse and parallels. In the spring term the out-of-door work of Course 2 replaces the apparatus work. Three hours a week. In connection with the work of the Freshman year will be given a series of talks and lectures on the subjects of personal and public hygiene and first aid to the injured. Part of the time will be devoted to classroom work on these subjects. Credit given and required for graduation. (Professor Schreiber.)

COURSE 4.—Required of students of the Short Course in Agriculture; fall and winter terms only.

The work of this class will consist of the mass drills and light elementary apparatus work and will deal more with the co-ordinative side of physical training than the developmental. The class is maintained during the fall and winter terms only. Two hours' work a week. Credit given and required for graduation. (Mr. Gallagher.)

COURSE 5.—Required of students of the Business Course; fall, winter, and spring terms.

The work of this course will be somewhat similar to Course 2 but more advanced. It will consist of mass class drills and apparatus work of the heavier type. During the spring term the out-of-door work of Course 2 replaces the indoor work. Three hours a week. Credit given and required for graduation. (Mr. Gallagher.)

COURSE 6.—Special Classes. Open to all students.

A. Cross-country running. During the fall and spring terms those students desiring to do so may substitute a certain amount

of cross-country running for the regular gymnasium work. (Mr. Gallagher.)

B. Wrestling. A class in wrestling, in which all of the holds, breaks and counters are given, is formed. A student may substitute one hours' work a week in wrestling for one hour of his regular class work. (Professor Schreiber.)

C. Boxing. A class in boxing in which all of the blows, parries, guards and counters are given, is formed. A student may substitute one hours' work in boxing for one hour of his regular class work. (Professor Schreiber and Mr. Gallagher.)

D. Special Class. A special class is formed for those who on account of deformities are unable to take the regular work of the department. The work of this class is suited to the needs of the individual. (Professor Schreiber.)

E. A class is organized and maintained for members of the Sophomore, Junior and Senior students. Meets twice a week. This work is optional with the students. (Professor Schreiber.)

(**NOTE.**—A student may take any or all of the special work but only one hour of substitution will be allowed.)

COURSE 7.—Advanced Gymnastic Class. Open to all students.

A special class is formed for those students who desire to do advanced work on the horse, parallel bars, horizontal bars, flying rings, mats, tumbling and club swinging, and for the leading of gymnasium squads. This comprises the regular gymnastic team for exhibition purposes. Three hours' work a week. Full credit given. (Professor Schreiber and Mr. Gallagher.)

(**NOTE.**—Preceeding Courses 2, 4 and 5 a few minutes talk is given before each class on some subject of personal hygiene with the idea of helping the student in his daily life.)

ATHLETIC.

Teams are maintained in football, baseball, track and basket ball. During the time any student is a member of one of the above teams he will be excused from all gymnasium work and will be given credit therefor. Football and baseball, Mr. Davis; track, Mr. Gallagher; basket ball, Professor Schreiber.)

COURSES FOR WOMEN

At the beginning of the fall term each young woman is given a careful examination. Personal history, measurements, deformities, are taken and recorded with an examination of the vital organs. This examination is repeated during the spring term and comparison made at both examinations with the average. Suggestions and prescriptions suited to the needs of the individual are based upon this examination.

COURSE 1.—Required for the members of the Sub-Freshman, Business, and Short Course classes. Introductory. Three hours a week.

The work of these classes consists of floor work emphasizing carriage and co-ordination of muscles. Movements with appar-

atus, progressive back and abdominal exercises, Indian clubs, dumbbells, barbells, wands, jumping, military marching and gymnastic games are given. (Miss Ross and Miss Combs.)

COURSE 2.—Required of members of the Freshman class. Advanced. Three hours a week.

This course consists of floor work, apparatus with more advanced work than in Course 1, vaulting horse, buck, vaulting box, boom, marching and gymnastic games. (Miss Ross.)

COURSE 3.—Required of the members of the Sophomore class. Advanced. Three hours a week.

This course is a continuation of Course 2 with more advanced work and with arm and body movements combined with fancy steps. (Miss Ross.)

COURSE 4.—Aesthetic Gymnastics. Elective for Juniors, Seniors and Specials.

The work of this course consists of systematic exercises in arm and body movements combined with fancy steps and marching to develop co-ordination and grace. (Miss Ross.)

COURSE 5.

For those unable to take the work of the regular required courses this course will be substituted. Hours to suit. (Miss Ross.)

COURSE 6.—Massage and Medical Gymnastics.

Elective for Juniors, Seniors, and Specials. (Miss Ross.)

COURSE 7.—Athletics.

A. Basket ball. Each class has a basket ball team and an interclass schedule is played. Students playing on their class teams are given credit for this work. The work is optional with the students. (Miss Combs.)

B. Field hockey and cross-country walking. Open to all classes during the months of October, April and May. (Miss Ross and Miss Combs.)

C. Tennis. Tennis is played on the College courts during favorable weather. A student may substitute tennis as a part of her required work and receive credit therefor. A tennis club is formed which is under the direction of the Girls' Athletic Association. The club is open to all girls of the College. The dues are 50 cents per year.

(**NOTE.**—In connection with Courses 1, 2, and 3 is given a series of lectures, talks and quizes on personal, public and school hygiene.)

Military Department

IRA F. FRAVEL, *Commandant*
First Lieutenant 24th U. S. Infantry
M. MCDONALD, *Assistant*

This institution being one of the beneficiaries of the Act of Congress of 1862, instruction in military tactics is made compulsory.

The department is in charge of an officer of the United States Army, detailed by the War Department, as professor of military science and tactics.

Military discipline is exercised with firmness, kindness and justice. It tends to cultivate habits of punctuality, alertness and the sense of personal responsibility. It helps the student to prepare himself the better for any position in life, because employers like to find men who are imbued with the idea of doing exactly as they are instructed by one authorized to direct them, and who have been trained to exercise quick yet sound judgment in any emergency that arises concerning which they have no definite instructions. These qualities are thoroughly inculcated in any person by a military training such as this College endeavors to give. In addition the drills give a graceful carriage to the student, assist in the promotion of the health of the individual, and are an added benefit to the other gymnasium work given in this College.

COURSE

The course of instruction is made to conform strictly to the provisions of General Order No. 231, War Department, 1909. In compliance with the requirement of that order, the course will be both practical and theoretical, and will be applied as follows:

(*a*) PRACTICAL.—All classes. (Two hours per week.)

1.—Infantry drill regulations, through the school of the regiment, in close and extended order.
2.—Advance and rear guards and outposts.
3.—Marches.
4.—The ceremonies of review, inspection, parades, escort of the color, guard-mounting, etc.
5.—Gallery practice.
6.—Target practice.
7.—Field problems with blank ammunition.

(*b*) THEORETICAL,—MILITARY SCIENCE. (One hour per week.)

1*a-b*.—Infantry Drill Regulations, 1904, to include the School of the Company, (two terms).

1*c*.—Paragraphs 538 to 607, inclusive, Infantry Drill Regulations, (one term).

2*a-b*.—Small Arms Firing Regulations, 1909, (two terms).

3*a-b-c*.—Field Service Regulations, (three terms).

4.—Paragraphs 242 to 537, inclusive, Infantry Drill Regulations, (one term).

5.—Manual of Guard Duty, (one term).

6.—Military Signaling, (one term).

7.—Outlines of First Aid to the Injured, etc., (one term).

Students will take up the several courses in the order named. Satisfactory completion of the prescribed work is required before graduation.

Students entering from other institutions where officers of the army are detailed will be given credit for any theoretical work for which they hold certificates, provided they are not afterwards found deficient in the practical work in the subject.

EQUIPMENT

The War Department has supplied the College with 450 U. S. magazine rifles, caliber .30, of the Krag-Jorgensen pattern, and 450 sets of infantry equipment. Swords, target supplies, and annual issues of ball, blank, and gallery cartridges are also received from the War Department.

UNIFORMS

Each male student is required to purchase a uniform through the College. The College has entered into a contract with a reliable uniform house whereby the uniforms can be purchased cheaper than if the student were required to purchase same direct.

Two uniforms will be used. One consists of coat, pants and hat and the other of the same hat and pants but a gray chambray shirt is worn instead of the coat. The coat, pants hat and two shirts cost $17.05. With the uniform any black high shoe may be worn, but a white military collar is required. White gloves

are required when under arms and white cuffs at inspection, if coat is prescribed.

The uniform will give more wear than a civilian suit costing the same amount. It is made of an excellent grade of 16 and 18 ounce Charlottesville woolen goods of gray color. Each suit is tailor-made to individual measure, and a correct fit is guaranteed by the contractor.

ORGANIZATION

All young men are required to enroll in the Military Department if physically able to take the work.

The Corps of Cadets has been organized into a regiment consisting of a band and two battalions of four companies each.

Upon appointment officers and non-commissioned officers are given commissions and warrants respectively. These are signed by the President of the College and the Commandant of Cadets. Officers whose service has been satisfactory are given a genuine parchment commission on their graduation.

Upon the graduation of each class, the names of such students as have shown special aptitude for military service are reported to the adjutant general of the army and to the adjutant general of their state.

ROSTER OF THE CORPS OF CADETS

Commandant of Cadets:

FIRST LIEUTENANT IRA F. FRAVEL

Twenty-fourth United States Infantry

Field and Staff:

MAJOR J. M. SPEIDEL, First Battalion.
MAJOR C. M. WOODWORTH, Second Battalion.
CAPTAIN ROY E. CLAUSEN, Regimental Adjutant.
CAPTAIN J. GUY FISHER, Quartermaster and Commissary.
1ST LIEUT. J. HOMER HAMILTON, Adjutant First Battalion.
1ST LIEUT. EMERICH H. BREWER, Adjutant Second Battalion.

Non-Commissioned Staff:

Fred L. Knoblock, Regimental Sergeant Major.
Robert M. Orr, Regimental Quartermaster Sergeant.
Harold Robinson, Regimental Commissary Sergeant.
Harry S. Leicht, Sergeant Major Second Battalion.
Roy V. Hall, Sergeant Major First Battalion.
Dallas H. Watson, Color Sergeant.
Clark M. Oursler, Color Sergeant.

Band:

E. CARROLL BEACH, Leader.

C. Shelley Jones, Chief Musician.
Robert O. Watrous, Prin. Musician.
W. S. Dorman, Drum Major.
Otto T. Straub, Sergeant.
H. J. Baade, Sergeant.
W. E. Dolde, Sergeant.
Ray H. Painter, Sergeant.
W. H. Austin, Corporal.
Carl W. Hopps, Corporal.
Guy P. Williams, Corporal.
Harold M. Swope, Corporal.
Chas. L. Clark, Corporal.
A. Ray Evans, Corporal.

FIRST BATTALION

	Company A	Company B	Company C	Company D
Captains	W. E. Camp	A. C. Oursler	E. E. Vezey	E. R. Kooken
1st Lieutenants	F. J. Selement	N. E. Winters	C. Ray Smith	L. B. Ritter
2nd Lieutenants	J. C. McIntyre	R. N. Allen	C. P. Blackwell	C. L. McArthur
1st Sergeants	H. W. Gregory	W. F. Gray	W. J. Burke	R. C. Lawellin
Sergeants	M. E. Hiet E. C. Hartshorne C. J. Reed T. W. Rhoades	F. L. Crocker W. B. Connell W. A. Buchanan G. F. Tongue	B. O. Clausen L. F. Payne H. D. Shiflett C. H. Frier	C. P. Clausen T. W. Duck C. L. Merydith A. E. Talbot
Corporals	Roll Ginter R. N. Davis P. M. Hewitt	H. R. Hedger W. A. Melton C. E. Taylor H. H. Frenzel F. I. Fix	S. J. Krepps R. L. Shannon O. C. Grigg J. E. Walter	E. E. Wells G. R. Milner H. H. Kimball Basil Hickerson I. W. Harvey

SECOND BATTALION

	Company E	Company F	Company G	Company H
Captains	R. A. Pochel	F. J. Tibbetts	Fred P. Funda	L. M. Neuman
1st Lieutenants	N. M. Faulds	R. E. Kenyon	M. B. McKay	L. E. Hildebrand
2nd Lieutenants	J. E. Larson	C. Schnurr	G. A. Hoke	C. P. Trueax
1st Sergeants	R. J. Hamon	Mac Hoke	H. H. Wikle	S. L. Jeffords
Sergeants	E. O. Galyon Earl Kilpatrick F. M. Edwards S. B. Johnson	S. J. Mayall A. C. Brodell J. A. H. Smith H. H. White	J. L. Allen F. A. Pribbenow E. E. Harnden M. R. Kester	J. G. Smith A. K. Tillotson John Seiglinger W. W. Ford
Corporals	J. B. Ford M. B. Jay E. C. Seeger Geo. Cinnamon Harry McFarren	C. E. Wilson C. L. McIlvain Jas. Neibert E. F. Lowman R. C. Birmingham	A. L. Cobb W. I. Nunn D. S. Wells E. L. Rudd	E. E. Bartlett E. C. Bartlett F. R. Hann Edward Frick F. G. Drummond
Musicians		I. W. Gumaer	O. C. Brown	

BEST COMPANY, 1910

Company "G" (Captain Fred P. Funda).

Captain presented with a sabre and the letter of the company and name of the captain will be engraved on a silver band placed on pike of College flag.

TEN BEST INDIVIDUAL SCORES GALLERY PRACTICE

	Percentage
H. E. Bonnette, Private Co. "H"	90.7
C. W. Hopps, Corporal Band	90.0
J. M. Speidel, Major 1st Battalion	90.0
J. G. Fisher, Capt. and Regt. Quartermaster	89.3
Frank Gardner, Private Band	88.7
R. A. Pochel, Captain Co. "E"	88.7
C. J. Diehl, Private Co. "E"	87.3
Emery Williamson, Private Co. "H"	86.7
C. S. Jones, Chief Musician, Band	86.0
Mac Hoke, 1st. Sergeant Co. "F"	86.0

RESULT GALLERY PRACTICE

	Percentage
F. S. and Band	77.0
Company "C"	72.5
Company "E"	70.9
Company "D"	69.7
Company "B"	68.0
Company "H"	67.7
Company "A"	65.7
Company "G"	63.2
Company "F"	63.0

INDIVIDUAL SCORES OF COLLEGE TEAM IN INTER-COLLEGIATE GALLERY CHAMPIONSHIP

	Standing	Prone	Total	Order in Team
Speidel, J. M.	82	89	171	3
Pochel, R. A.	79	89	163	6
Bonnette, H. E.	73	82	155	9
Hickerson, W. B.	73	86	159	8
Taylor, C. E.	84	88	172	2
Fix, Fred I.	82	82	164	5
McKay, M. B.	83	92	175	1
Fisher, J. Guy	79	85	164	4
Clausen, C. P.	83	80	163	7
Diehl, C. J.	73	81	154	10
	791	854	1645	

TEN BEST INDIVIDUAL SCORES ON RIFLE RANGE

(All over 98 qualify as "Marksmen" in Special Course "C")

	200 yds.	300 yds.	500 yds.	Total
Seeger, E. C.	34	37	39	110
Blosser, R. F.	32	31	43	106
Kilpatrick, Earl	34	37	34	105
Pochel, R. A.	29	43	30	102
Dowell, E. F.	24	35	41	100
Taylor, C. E.	29	41	30	100
Dannenburg, H. W. G.	28	35	33	96
Ford, John B.	28	33	29	90
Payne, L. F.	36	32	22	90
McKay, M. B.	26	26	36	88

Department of District Agricultural Schools

B. C. PITTUCK, *Dean*

The First and Second State Legislatures of Oklahoma provided for the location and establishment of six agricultural schools, in each of which secondary courses in agriculture are offered. These schools are under the supervision of the Oklahoma State Board of Agriculture, and in accordance with the law establishing them have their courses of study leading to the Oklahoma Agricultural and Mechanical College and the State Normal Schools. The courses of study offered in these schools to the boys and girls of Oklahoma are planned to give them a more pracitcal form of education than they have heretofore had at their command. No other course than an industrial course is offered.

The A. & M. College and the State Normals will give credits for work done should the student desire to take up advanced work.

The following are the names and location of each of the six schools:

The Connors State School of Agriculture, Warner, Oklahoma, represents the First Supreme Court Judicial District. Walter Van Allen, Superintendent.

The Murray State School of Agriculture, Tishomingo, Oklahoma, represents the Second Supreme Court Judicial District. James A. Wilson, Superintendent.

The Haskell State School of Agriculture, Broken Arrow, Oklahoma, represents the Third Supreme Court Judicial District. J. H. Esslinger, Superintendent.

The Cameron State School of Agriculture, Lawton, Oklahoma, represents the Fourth Supreme Court Judicial District, J. A. Liner, Superintendent.

The Connell State School of Agriculture, Helena, Oklahoma, represents the Fifth Supreme Court Judicial District. Chas. E. Scott, Superintendent.

The Pan-Handle Agricultural Institute, Goodwell, Oklahoma, represents the Pan-Handle Agricultural District. S. W. Black, Superintendent.

SPECIMEN ENTRANCE EXAMINATION QUESTIONS

Those desiring to enter the regular College courses and who have no common school or high school diplomas will do well to carefully examine the list of specimen questions herein set forth and satisfy themselves that they can answer such questions before applying in person at the College for admission to Sub-Freshman, Freshman or Sophomore classes. No examinations are required for admission to the Business Courses or to any of the Short Courses in Agriculture and Domestic Science.

SUB-FRESHMAN CLASS

Arithmetic

Prepare the combinations of six. When should the idea one-half be introduced?

There are 44 cattle in a pasture, and the number of cows is 4-5 of the number of calves. How many of each?

When gold was 20 per cent more than currency, what was the value of the dollar bill?

At 66 cents a bushel, what is the value of the wheat which fills a bin 6 feet long and 5 feet square at the ends?

I buy 10 shares of 3 per cent stock at 80. What is my income?

Grammar

Write the plural for each of the following: Church, ax, fife, cuff, axis, datum, nebula, sheaf, penny, alley, son-in-law.

Name all the different classes of pronouns and give two examples of each.

(a) Use an infinitive as the subject of a sentence. (b) As an object of a transitive verb. (c) As the subjective complement.

(a) Principal parts: see, sit, set, lie, lay, come, burst. (b) Pluralize: for-get-me-not, father-in-law, deer, it, genius.

Decline in singular and plural, I, man, which, he, John. What is voice? Change the voice in the following sentence: John discovered coal on his farm.

United States History

Compare the colonists of Virginia and Massachusetts as to ancestry, religion and occupation.

Name three important inventions and show their effect upon our industries.

Discuss causes of the Civil War: as to different constructions of the Constitution and different systems of labor in North and South.

Give cause of, and extent of the application of the Emancipation Proclamation.

Give four of the principal issues of the campaign of 1908.

Geography

Discuss the climate, elevation, and rainfall of Oklahoma.

Name five Indian tribes in Oklahoma and tell where each is found.

(a) Name the New England States and give the capital of each.

(b) Name five important industries of this section.

Discuss the drainage of North America and name eight important rivers.

Discuss briefly the foreign possessions of the United States.

Name the planets in their order from the sun.

FRESHMAN CLASS

Algebra

(a) $(x+y)^2$, (b) $(2a+3b)^2$, (c) $(2a+3b)^3$.

(a) $(x^5-y^5)\div(x-y)$, (b) $(x^7+a^7)\div(x+a)$.

Factor:

(a) $a^2-b^2x^2$, (b) $1-x^4$, (c) a^4+4, (d) x^2-x-30.

What is that number which when divided by three is equal to one-quarter of the sum of itself and twenty-five?

$$2x+2y+4z=20.$$
$$3x+4y+5z=26.$$
$$3x+5y+6z=31.$$

Multiply:

(a) $2+\sqrt{5}$ by $2-\sqrt{5}$.

(b) $3-\sqrt{15}$ by $2+\sqrt{5}$.

Literature

Give from memory a list of the literature you have read as a part of your school work since completing the eighth grade. Supply also other information as suggested by the following form:

Literature Studied	Is It Prose or Poetry?	Further Classify It; for example as Novel, Oration, Lyric, Poem, etc.	Author	Nationality of Author
1				
2				
3, etc.				

English

Describe the embarkation in "Evangeline".

Which was the shrewder person, Brutus or Cassius? Give solid reasons for your answer.

Discuss briefly the effect of the coming of Eppie upon Silas Marner.

Who or what was each of the following: (Answer each in not more than ten words).

The Styx	Hercules	Pandora
Achilles	Prometheus	Charon
Psyche	Paris	Juno

Composition

What is a paragraph? Tell how it is constructed and how it is separated from other paragraphs on the page.

Write a one-page or two-page theme explaining how to play some simple and familiar game.

Physiology

Name three kinds of joints; state what movements are possible in each; and name the structures constituting a perfect joint.

In a pen or pencil sketch, show the divisions of the skin and the different structures it contains.

Trace a piece of cooked potato from the time it enters the mouth until it is thrown off from the lungs as carbonic acid gas and water.

Distinguish between fractures, dislocations and sprains.

Name and give the use of eight different parts of the eye-ball.

Physical Geography

Discuss young, mature, and old valleys and tell how we can estimate the age of mountains.

(a) Discuss erosion. (b) Name six agents of erosion.

Name two important classes of rock and tell how each is formed.

Discuss underground currents and the formation of lakes.

Discuss the effect of climate, elevation, etc., on plant and animal life.

SOPHOMORE CLASS

Geometry

Define: Diagonal of a polygon; similar arcs; radius of a polygon; spherical wedge; altitude of a prism; right circular cone.

Find the centers for the inscribed circle and the circumscribed circle in the triangle A B C. Prove your construction.

The diameter of a circular grass plot is 28 feet. Find the diameter of a circular grass plot just twice as large.

The sum of the face angles of any convex polyhedral angle is less than four right angles. Prove.

Show how to divide a given rectangle into four equivalent parts by lines drawn from one of the vertices of the rectangle. Give proof.

Advanced Algebra

Solve:

(*a*) $5x+3y-6z=4.$
$3x-y+2z=8.$
$x-2y+2z=2.$

Extract the square root of:

(*a*) $x^4+4x^3+2x^2-4x+1.$
(*b*) $9a^2-6ab+30ac+6ad+b^2-10bc-2bd+25c^2+10cd+d^2.$

Solve:

$$\left(\frac{(x+3b}{8a^2-12ab}-\frac{3b}{9b^2-4a^2}-\frac{a+3b)}{(2a+3b)\ (x-3b)}\right.=0.$$

Solve:

(*a*) —
$$\begin{cases} x^3+y^3=2728. \\ x^2-y+y^2=124. \end{cases}$$

(*b*) —
$$\begin{cases} \dfrac{x+y}{x-y}-\dfrac{x-y}{x+y}=\dfrac{89}{40}. \\ 6x=20y+9. \end{cases}$$

Solve:

(*a*) $\sqrt{3+x}+\sqrt{x}=\dfrac{6}{\sqrt{3+x}.}$

(*b*) $\sqrt{\dfrac{x}{4}-3}+\sqrt{\dfrac{x}{4}-3}=\sqrt{\dfrac{2x}{3.}}$

By use of tables find logarithms of :

706 33, 0.0897, 1.0001, 99, 778.
If a:b::c:d, prove that
(a) ma:nd::mc:nd
(b) ma—nd:ma—nb::mc—nd:mc—nd.

Physics

Define: Extension; impenetrability; porosity; density.
State Pascal's law. Describe the hydraulic press.
State Boyl's law. Describe a simple form of air pump.
How find the specific gravity of a solid?
Define: Work; energy; power.

Latin

What must you know in order to be able to decline a noun?

Name four important classes of i-stem nouns and tell in what cases their endings differ from those for consonant stems.

How are the conjugations distinguished?

What is a deponent verb?

Decline: Dea, fortior, amans, felix, calcar, mare, quis, sui.

Give in full the imperative, infinitives and participles of reg.

Translate: Deinde Eurystheus Herculi laborem hunc graviorem imposuit. Augeas quidam, qui illo tempore regnum in Elide obtinebat, tria milia bonum habebat. Hi in stabulo ingentis magnitudinis includebantur; stabulum autem inluvie ac squalore obsitum est; neque enim ad hoc tempus umquam purgatum erat. Hoc issus est Hercules intra spatium unius diei purgare. Ille, etsi res erat multae operae, negotium suscepit. Primum magno labore fossam duodeviginti pedum fecit, per quam fluminis aquam de mortibus ad murum stabuli perduxit. Tum, postquam murum perrupit, aquam in stabulam immisit; et tali modo contra opinionem omnium opus confecit.

Literature

When, where, and for what purpose was Burke's speech on conciliation delivered?

Tell briefly some of the most important ideas you have gained from Bacon's essays.

Tell what you can of the passage in either of Webster's Bunker Hill orations which seems to you the most worth remembering.

Point out clearly the difference between the essay and the oration, illustrating what you say by reference to essays and orations studied.

Composition

Discuss briefly the difference between exposition and argumentation.

Write a one-page descriptive theme.

LIST OF TEXT BOOKS (WITH PRICES)

(Used in the several departments throughout the year)

Department of Animal Husbandry

TEXT AND AUTHOR	PRICE
Live Stock Judging—Craig	$1.50
Types and Breeds of Farm Animals—Plumb	2.00
Principles of Breeding—Davenport	2.50
Feeds and Feeding—Henry	2.00
Farm Buildings—Sanders	1.50
The Horse Book—Johnson	1.50
Beef Production—Mumford	1.00
The Farm Dairy—Gurley	1.00
Sheep Farming in America—Wing	1.00
Swine—Dietrich	1.50

Department of Dairy Husbandry

Dairy Farming—John Michels	$1.00
Principles and Practice of Buttermaking—McKay & Larson	1.50
Creamery Buttermaking—John Michels	1.50
Business of Dairying—Lane	1.50
Dairy Engineering—Boss	1.50
Eby's Handy Tables—Eby	1.00
Cheese making—Decker	1.50
Ice Cream Making—Larson	.25

Department of Mechanical Engineering

Elementary Mechanics—Merrill	$1.50
Descriptive Geometry—Church	2.50
Elements of Mechanism—Schwamb & Merrill	3.00
Thermodynamics—Reeves	2.60
Valve Gears—Spangler	2.50
Machine Design—Unione	4.50
Turbines—Wood	2.50
Gas Engine in Principle and Practice—Goldingham	1.50
Steam Power Plants—Meyer	2.00
Heating and Ventilating Buildings—Carpenter	4.00

Department of Electrical Engineering and Physics

Electricity and Magnetism—Thompson	$2.00
Elements of Electrical Engineering—Franklin & Esty	2.50
Electric Lighting Specifications—Merrill	1.50
Alternating Current and Alternating Current Machinery—Sheldon, Mason Hausman	2.50
Laboratory and Factory Tests in Electrical Engineering—Sever & Townsend	2.50
Dynamo Design—S. P. Thompson	3.00
Electrical Engineers Pocket-book—Foster	5.00
Electric Lighting—Crocker	3.00
Electric Power Plants—Weingrein	5.00
Students Manual of Physics—Cooley	1.25
Laboratory Manual of Physics—Sabine	1.25

Department of Civil Engineering

A Manual of Field and Office Methods—Pence & Ketchum	$2.00
The Principles and Practice of Surveying (Vol. 1)—Breed & Hosmer	3.00
The Principles and Practice of Surveying (Vol. 2)—Breed & Hosmer	2.50
Railroad Curves and Earthwork—C. F. Allen	2.00
The Design of Steel Mill Buildings—M. S. Ketchum	4.00
The Design of Simple Roof Trusses in Wood and Steel—M. A. Howe	2.00
A Treatise on Roads and Pavements—I. O. Baker	5.00
Dust Preventives and Road Binders—Prevost Hubbard	3.00
Retaining Walls for Earth—M. A. Howe	1.25

TEXT AND AUTHOR	PRICE
Irrigation Engineering—H. M. Wilson	4.00
An Elementary Textbook of Theoretical Mechanics—G. A. Merrill	1.50
Applied Mechanics for Engineers—E. L. Hancock	2.00
A Treatise On Hydraulics—Mansfield Merriman	5.00
The Design of Highway Bridges—M. S. Ketchum	4.00
Theory of Steel Concrete Arches—W. Cain	.50
The Design of Typical Steel Railway Bridges—W. C. Thomson	2.00
Building Construction and Superintendence (Part 1)—F. E. Kidder	6.00
Cement Laboratory Manual—L. A. Waterbury	1.00
Principles of Reinforced Concrete Construction—Turneaure & Maurer	3.00
Sewerage—A. P. Folwell	3.00
Public Water Supplies—Turneaure & Russell	5.00
Structural Mechanics—C. E. Green	2.50
Elements of Railroad Engineering—W. G. Raymond	3.50
Engineering Contracts and Specifications—J. B. Johnson	3.00

Department of Architectural Engineering

Building Construction and Superintendence (Part 2)—Kidder	$4.00
History of Architecture—Hamlin	3.00
Principles and Practice of Plumbing—Cosgrove	3.00
Steel Construction—Tucker	1.50

Department of Domestic Science

Cost of Living—Richards	$ .80
Elementary Domestic Science—Landes	.54
Elementary Principles of Economics—Ely & Wicker	.84

Other books needed by students may be obtained from the Library as reference books.

Department of Domestic Arts

Textiles and Clothing—Watson	$1.00

Department of Zoology and Veterinary Science

Zoology—Parker & Haswell	$1.40
Advanced Physiology—Brubaker	3.25
Bacteriology—Jordon	2.00
Bacteriology—Conn	1.50
Sub-Freshman Physiology—Huxley	1.40
Materia Medica—Potter	1.00
Embryology—Foster & Balfour	2.25
Histology—Pierson	2.75
Animal Parasites—Kaupp	2.00
Bacteriology—Muir	2.00
Veterinary Medicine—Law	——
Biology—Wilson	3.25
Veterinary Medicine—Mayo	1.25
Physiology—Mayberry	1.00

Department of Chemistry

Introduction to the Study of Chemistry—Remsen	$1.25
Chemical Experiments—Remsen	.50
General Inorganic Chemistry—Baskerville	1.50
Calculations of General Chemistry—Hale	1.00
Quantitative Experiments of General Chemistry—Stoddard	1.50
Chemistry of Cooking and Cleaning—Richards & Elliott	1.00
Industrial Chemistry—Rogers & Aubert	——
Quantitative Analysis—Perkins (Wollwo)	2.00
Elements of Chemical Engineering—Grossman	1.00
Mechanical Appliances of Chemical and Metallurgical Industries—Wagle	2.00
Chemistry for Beginners (Vol. 2, Organic)—Hart	1.00
Introduction to the Study of the Compounds of Carbon—Remsen	1.20
Rock-forming Minerals—Iddings	——
Mineralogy Simplified—Erne & Brown	2.50
Manual of Agricultural Chemistry—Ingle	——
Elementary Exercises in Quantitative Analysis—Lincoln & Walton	1.00

Department of Entomology

TEXT AND AUTHOR	PRICE
Metallurgy—Read	1.05
Systematic Inorganic Chemistry of Chemical Theory—Caven & Lander	2.00
First Principles—Mathewson	1.00
Elementary Studies of Insect Life—Hunter	$1.25
Manual of the Study of Insect Anatomy—Comstock & Kellogg	1.00

Department of English Language and Literature

Principles of Composition—Pearson	$ .50
Paragraph Writing—Scott & Denney	1.25
Tales and Poems—Poe	.15
Macbeth or Merchant of Venice—Shakespeare	.25
Prisoner of Chillon and Other Poems—Byron	.15
Sohrab and Rustum—Arnold	.15
Quentin Durward—Scott	.25
Specimens of Prose Composition—Nutter, Hersey & Greenough	1.25
English Narrative Poems	.25
Kidnapped—Stevenson	.25
Romeo and Juliet—Shakespeare	.25
The Winter's Tale—Shakespeare	.25
Narratives from the Old Testament	
Twelfth Night—Shakespeare	.56
Hamlet—Shakespeare	.56
Development of the English Novel—Cross	1.50
Complete Poems—Tennyson	1.50
British Poets of the Nineteenth Century—Page	2.00
Sartor Resartus—Carlyle	.80
Selected Essays and Letters—Ruskin	.60

Department of Mathematics

College Algebra—Rietz & Crathorne	$1.50
Plane Geometry—Stone & Millis	1.00
Solid Geometry—Stone & Millis	1.00
Plane and Spherical Trigonometry—Ashton & Marsh	1.20
Analytic Geometry—Tanner & Allen	2.00
Infinitesimal Calculus—Murray	2.00
Differential Equations—Murray	2.00
Elements of Astronomy—Young	1.60

Department of Political Economy and Social Science

Business Organization—Sparling	$1.25
Business Administration—Parsons	3.00
Economics—Seager	1.75
Agricultural Economics—Taylor	1.25
Among Country Schools—Kern	1.25
Sociology—Dealey	1.50
Social Duties—Henderson	1.25
Women in Industry—Abbott	2.00
Actual Government—Hart	2.25
The American Federal State—Ashley	2.00
Government—Dealey	1.50

Department of German and Latin

Essentials of German—Vos	$ .90
Germelshausen—Gerstacker	.35
Till Eulenspiegel	.30
Einer muss heiraten—Wilhelmi	.35
Das edle Blut—Wildenbruch	.35
Willkommen in Deutschland—Mosher	.75
Im Vaterland—Bacon	1.25
Wilhelm Tell—Schiller	.75
Der Trompeter von Sakkingen—Scheffel	.80
German Science Reader—Wait	1.00
German Composition—Harris	.50

TEXT AND AUTHOR	PRICE
German Grammar—Thomas	1.25
Materials for German Conversation—Vos	.75
Minna von Barnhelm—Lessing	.60
Hermann und Dorothea—Goethe	.60
Die Braut von Messina—Schiller	.70
Die Harzreise—Heine	.40
Frau Sorge—Sudermann	.80
Die Electronentheorie—Kayser	.20
Die Chemie im taglichen Leben—Lassar-Cohn	.45
German Daily Life—Kron	.75
Latin Grammar—Bennett	.80
Preparatory Latin Writer—Bennett	.80
Caesar—Kelsey	1.25
Cicero—Kelsey	1.25
Vergil—Comstock	1.40
A Term of Ovid—Gleason	.75
New Latin Composition—Daniell	——

Department of Pedagogy and History

PEDAGOGY

The student is not expected to purchase more than one book in each subject, and the average cost is about one dollar.

HISTORY

Ancient History—West	$1.50
History of Western Europe—Robinson	1.60
A Short History of England—Cheyney	1.40
History of the United States—Elson	1.75
History of Oklahoma—Thoburn & Holcomb	.65
Essentials in American History—Hart	1.50

Business Department

STENOGRAPHIC DIVISION

Shorthand Manual—John R. Gregg	$1.50
Speed Practice—John R. Gregg	1.00
Exercise Book—John R. Gregg	.
Study of the Sentence—Leroy J. Barton	.60
Modern Business English—D. D. Mayne	.85
Exercises in Punctuation—A. N. Smith	.80
Speller—D. L. Musselman	.25
Rational Typewriting—John R. Gregg	1.00
Gregg Writer (Magazine)	.60

BUSINESS DIVISION

Modern Illustrative Bookkeeping (Introductory)—Williams & Rogers	$2.95
Modern Illustrative Bookkeeping (Advanced)—Williams & Rogers	1.85
Banking—Williams & Rogers	1.35
Twentieth Century Business Practice—James W. Baker	1.50
English Texts, same as in Stenographic Division (Total)	2.25
Commercial Arithmetic—E. L. Payne	.75
Business Law—Huffcutt	1.00
Money, Banking and Finance—Bolles	1.25
Speller—D. L. Musselman	.25
The American Penman (Magazine)	.50

Sub-Freshman Department

Algebra—Lennis & Slaught	$1.00
Arithmetic—Stevens & Butler	.75
Lessons in Elementary Physiology—Huxley	1.50
Essentials in American History—Hart	1.50

TEXT AND AUTHOR	PRICE
American Government—Ashley	1.00
Oklahoma History—Abbott	1.00
Etymology—Swinton	.40
Practical English—Scott	.60
Latin—Hale	

Department of Military Science and Tactics

Infantry Drill Regulations	$ .45
*Small Arms Firing Regulations	.55
*Field Service Regulations	.20
Manual Bayonet Exercise	.20
Outlines of First Aid to the Injured	.60
Manual of Guard Duty	.35
Army Regulations	.35

With the exception of the Drill Regulations and Field Service Regulations sufficient government publications are on hand to supply classes. The student deposits the value of the publication which is refunded when book is returned. A paper bound copy of the Drill Regulations can be purchased for about 25c from book store near College.

*New editions published lately and price may be slightly changed.

ALUMNI

ORGANIZATION FOR 1910-11

R. H. MOORE, '08, Stillwater.....*President*
J. E. WOODWORTH, '05, Guthrie.....*First Vice-President*
E. G. LEWIS, '96, Ramona.....*Second Vice-President*
R. E. ANDERSON, '08, Stillwater.....*Secretary*
CHESTER H. LOWRY, '02, Stillwater.....*Treasurer*

The following is a list of the graduates of the College by classes, and in each case the address and occupation is given as correctly as the Secretary's records show. It is especially desired that all graduates advise the Secretary of changes of address and occupation.

1896

Arthur W. Adams, Real Estate Agent.....Ardmore, Okla.
J. Homer Adams, Real Estate Agent.....Ardmore, Okla.
Frank E. Duck, Farmer.....Stillwater, Okla.
A. Edward Jarrell, Santa Fe System.....Pueblo, Colo.
Erwin G. Lewis, Vice-President Ramona State Bank.....Ramona, Okla.
Oscar M. Morris, Professor of Horticulture, A. & M. College.....Stillwater, Okla.

1897

Jessie O. (Thatcher) Bost, at Home.....Alva, Okla.
George W. Bowers, Railway Conductor.....Enid, Okla.
Andrew N. Caudell, Entomologist, Department of Agriculture.....Washington, D. C.

1898

John T. Clark, Treasurer of Mindanao Province.....Cagayon, Philippine Islands
Augustus G. Ford, Wholesale Grain Dealer.....Muskogee, Okla.
Norris T. Gilbert, Banker.....Lawton, Okla.
Thomas J. Hartman, Cashier, Bank of Commerce.....Sulphur, Okla.
Clinton Morris, Iron Foundry Chemist.....Goodrich, Tenn.
Emma H. (Swope) Dolde, at Home.....Leavenworth, Kans.
Blanche (Wise) Diggs, at Home.....Stillwater, Okla.

1899

Noah P. Bullock, Teacher.....Stillwater, Okla.
Clarence R. Donart, Bank Cashier.....Altus, Okla.
Minnie A. (Dysart) Teter, at Home.....Bristow, Okla.
Francis M. Greiner, Chemist Iron Works.....Ensley, Ala.
Cora A. Miltimore, Librarian, A. & M. College.....Stillwater, Okla.
S. Earl Myers, Real Estate Agent.....Guthrie, Okla.
Arthur B. McReynolds, Publisher and Editor.....Guadalupe, Calif.
*Charles E. Regnier.....Stillwater, Okla.

*Deceased

1900

A. W. Anderson, Lawyer.....Woodward, Okla.
Cora M. (Donart) Coffey, at Home.....Lawton, Okla.
Thomas T. Goff, Instructor in Gem City Business College.....Quincy, Ill.
John S. Malone, Farmer.....Glencoe, Okla.
Louis C. Miller, Chief, Division Forest Planting.....Denver, Colo.
George W. Stiles, (M. D. George Washington University,) Bureau of Chemistry, Department of Agriculture.....Washington, D. C.

1901

R. Bradford Hurst, Hospital Steward, U. S. Navy.....Washington, D. C.
Kate A. Jewett, Principal High School.....Udall, Kans.
Charles L. Kezer, Superintendent of City Schools.....Stillwater, Okla.
Arthur C. Lewis, Assistant State Entomologist.....Atlanta, Ga.
Velma (Walker) Swinford, at Home.....Stillwater, Okla.

1902

A. Bondy Anderson, Inspector, Motive Power Department, Santa Fe Railway System.....Topeka, Kans.
Sarah S. Carson, Hardware Business.....Perkins, Okla.
A. Warren Flower, Railway Service.....Deer Creek, Mont.
A. Gertrude Hunt, Durant Normal.....Durant, Okla.
George M. Janeway, Cashier, Bank of Skiatook.....Skiatook, Okla.
Charles V. Jones, Lawyer.....Clay Center, Kans.
Ralph Kratka.....Rocky Ford, Colo.
Chester H. Lowry, Lawyer.....Stillwater, Okla.
Samuel A. McReynolds, Railway Mail Service.....Monett, Mo.
Monroe J. Otey, Banker.....Frankfort, Okla.
Howard F. Pigg, Assistant Superintendent Electrical Works.....Mineville, N. Y.
Frank L. Rector, (M. D., George Washington University,) Bacteriologist, Great Bear Spring Co.....Brooklyn, N. Y.
R. Rex Shively, Bureau of Chemistry.....Washington, D. C.
Charles E. Smeltzer, Student, Rush Medical College.....Chicago, Ill.
Ethel V. Walker Teacher.....Bethany, Mo.
Belle Walker, at Home.....Oklahoma City, Okla.
Marion M. Woodson, with State Board of Agriculture.....Guthrie, Okla.

1903

John J. Brown, Erecting Engineer for Westinghouse Electric Co.....Chicago, Ill.
Horace S. Gulick, Chief Chemist, American Steel Foundries.....E. St. Louis, Ill.
George W. Hoover, Assistant in Bureau of Chemistry.....Washington, D. C.
R. Morton House, Erecting Engineer for Westinghouse Electrical & Manufacturing Co.....Pittsburg, Pa.
Mamie G. Houston, High School Instructor.....Albany, Ore.
Nina B. (Hurst) Suits.....Beeville, Texas
Mary (Jarrell) Hartman, at Home.....Sulphur, Okla.
Ransom S. Kenyon, Electrician for New Orleans Ry. & St. Co.....New Orleans, La.
Robert H. Kerr, Assistant Chemist, Department of Agriculture.....Washington, D. C.
William E. Kinder, Professor of Mathematics and English, Connors State School of Agriculture.....Warner, Okla.
Henry J. Lincoln, Inspector Motive Power Department, Santa Fe Railway System.....Wilkinsburg, Pa.

Henry F. McBride, Guanajuato Power & Electric Co.....Guanajuato, Mexico
Maud I. Miller, at Home.....Beeville, Texas
*Charles E. Morrow.....Stillwater, Okla.
Jessie E. (Morrow) Watkins, at Home.....Enid, Okla.
Mary A. (Nielson) Taylor, at Home.....Perry, Okla.
Stella C. Nelson, Druggist.....Washington, D. C.
Lila E. (Nelson) Chandler, Pharmacist.....Washington, D. C.
Cyrus W. Nelson, Druggist.....Washington, D. C.
Esther A. North, at Home.....Geary, Okla.
Abbott G. Robinson, Assayer.....Tecopa, Calif.
Bertha M. Ruble, Professor of Domestic Science, Ada Normal School.....Ada, Okla.
Florence K. Walker, Assistant Cashier, Exchange Bank.....Glencoe, Okla.

*Deceased

1904

Renzo D. Bowers, Lawyer.....Roswell, N. Mex.
Frederick F. Chandler, Assistant Master Mechanic, Bethlehem Steel Co.....South Bethlehem, Pa.
Samuel B. Durham, Professor Animal Husbandry, Agriculture College.....Los Banos, La Laguna, P. I.
J. Carleton Gilbert, Professor in Government Schools.....Shanghai, China
Porter N. Guynn, Inspector, Civil Engineering Department, Illinois Steel Co.....Brooklyn, N. Y.
Clyde M. Hamblin, General Electric Co.....Schenectady, N. Y.
Edward L. Jones, Government Electrician.....San Jose, Calif.
John W. Kidd, Associate Professor of Physics, Texas A. & M. College.....College Station, Texas
Amos E. Lovett, Farmer.....Hunter, Okla.
Vern Marple, Bank Cashier.....Sulphur, Okla.
John F. McBride, Guanajuato Power & Electric Co.....Guanajuato, Mexico
Bernice Morgan, Student, A. & M. College.....Stillwater, Okla.
Abigail E. Nelson, Art Student.....Washington, D. C.
Harry I. Stevens, Jr., Chemist, Starch Works.....Chicago, Ill.
William A. Tarr, Student, and Research Assistant in Department of Geology, University of Chicago.....Chicago, Ill.
Maude E. Thoroughman, Teacher.....Perkins, Okla.
Joseph W. Thornberry, Buttermaker, Townsend Creamery.....Astoria, Ore.
Faye B. Walker, at Home.....Oklahoma City, Okla.
Alpheus C. Withers, Dentist.....Glencoe, Okla.
George F. Wikle, General Electric Co.....Schenectady, N. Y.

1905

Hermond L. Ball, Westinghouse Electric Co.....Cincinnati, Pa.
Robert I. Bilyeu, County Superintendent.....Stillwater, Okla.
Frank R. Blue, Operating Engineer, Chicago Edison Co.....Chicago, Ill.
Rose E. Broom, Teacher.....Perkins, Okla.
William L. Burlison, Chief Assistant of Agronomy, A. & M. College.....Brookings, S. D.
Roy E. Burnett, Assistant in Bacteriology, Department of Agriculture, Washington, D. C.
Harry Comstock, Chief Electrical Engineer, Witherbee, Sherman & Co.....Mineville, N. Y.
William L. English, Field Agent, Department Co-Operative Demonstration Work, U. S. Department of Agriculture.....Oklahoma City, Okla.
Andrew C. Hartenbower, Professor of Agriculture, Pilot Point High School, ...Pilot Point, Texas

Alice A. Hastings, Teacher.....Anadarko, Okla.
G. Ernst Hines, Supervising Engineer, Burns & McDonnell.....Kansas City, Mo.
John C. Johnstone, Teacher.....Lawton, Okla.
Elmer J. Knauss, Drug Clerk.....Kansas City, Mo.
John A. Nelson, Lawyer.....Washington, D. C.
Carrie E. Lewis, Teacher City School.....Stillwater, Okla.
Walter S. Rush, General Manager International Marine Indicator Co...New York, N. Y.
John A. Spalding, Farmer.....North Enid, Okla.
Lola M. (Tankersley) McAninch, at Home.....Okeene, Okla.
Raymond C. Wiley, Assistant Station Chemist.....Manhattan, Kans.
J. Earl Woodworth, with State Capital.....Guthrie, Okla.

1906

Mary B. Atkinson, High School Instructor.....Stillwater, Okla.
Gertrude M. Braden, Professor of Domestic Science, Haskell State School of Agriculture.....Broken Arrow, Okla.
Charles W. Brown, Assistant Bacteriologist, Experiment Station.....Agricultural College, Mich.
Emma A. Chandler, Professor of Domestic Science and Art, Murray State School of Agriculture.....Tishomingo, Okla.
Arthur C. Clark, General Electric Co.....Minneapolis, Minn.
Dovie V. Eberle, Teacher.....Ralston, Okla.
Carl E. Howell, Chief Operator's Office, P. L. & P. Co.....Los Angeles, Calif.
Theo M. (Lowery) McKee, at Home.....Tulsa, Okla.
Clarence H. McElroy, Student, A. & M. College.....Stillwater, Okla.
Bertha Miller, Student, A. & M. College.....Stillwater, Okla.
Fred B. Olentine, Student, Rush Medical College.....Chicago, Ill.
John C. Osborn, Operator, Hudson River Power Co.....Amsterdam, N. Y.
Grace E. Semke, Teacher.....Garber, Okla.
*Stewart G. Smith.....Stillwater, Okla.
Veda R. Walker, Instructor in Kansas University.....Lawrence, Kans.
James Wilson, Assistant in Bacteriology, Experiment Station.....Geneva, N. Y.
*Deceased

1907

Ruth R. Bras, High School Instructor.....Ardmore, Okla.
Ross L. Carson, Hardware Business.....Perkins, Okla.
Bertha M. Chester, Professor of English and Mathematics, Connell State School of Agriculture.....Helena, Okla.
Elmer E. Dougan, General Electric Co.....Pittsfield, Mass.
Maude M. English, at Home.....Stillwater, Okla.
Avery V. Hancock, General Electric Co.....Oklahoma City, Okla.
Charles E. Hoke, Assistant in Office of Farm Management.....Oklahoma City, Okla.
Harry G. Hoke, Westinghouse Electric Co.....Wilkinsburg, Pa.
Arthur G. Lantz, Promoter.....Shawnee, Okla.
Calvin R. Lantz, Farmer.....Dexter, N. Mex.
Edwina (Morrison) Berry, at Home.....Stillwater, Okla.
Bonnie Newcomb, Teacher.....Orin, Wash.
Hattie I. Oschman, Teacher.....Walter, Okla.
J. Anderson, Ratcliff, Student, University of Nebraska.....Lincoln, Neb.
Charles T. Reeve, General Electric Co.....Oklahoma City, Okla.
Henry W. Reeve, Farmer.....Choctaw, Okla.
Jeanette I. Taylor, Professor of Domestic Science, Connell State School of Agriculture.....Helena, Okla.
Pearl L. Wiar.....Oklahoma City, Okla.

1908

Rex E. Anderson, Registrar, A. & M. College.....Stillwater, Okla.
Robert O. Baird, Assistant Station Chemist, A. & M. College.....Stillwater, Okla.
Paul Bennett, Plumber.....Stillwater, Okla.
Albert L. Boley, Engineer.....Fairview, Okla.
Frank J. Clark, Circulation Manager, Oklahoma Farm Journal....Oklahoma City, Okla.
Frank Cole, Chemist.....Baltimore, Md.
Victor H. Francis, Superintendent City Light & Power Plant.....Kingfisher, Okla.
Ernest H. Gager, Commonwealth Edison Electric Co.....Chicago, Ill.
Fannie Hamon, Professor of Domestic Science, Pan-Handle Agricultural Institute, ...Goodwell, Okla.
Frank A. Hays, Farmer.....Judith Gap, Mont.
D. Lynn Holmes, Physical Director and Professor of History, Bethel College..... .....Russelville, Ky.
O. Wendell Holmes, State Dairy Inspector.....Guthrie, Okla.
Lenore R. Janeway, Teacher of Domestic Economy, Chickasha High School, ...Chickasha, Okla.
Clarence R. Letteer, Superintendent of Government Farms.....Thurston, Neb.
A. Lester Lovett, Assistant Entomologist, A. & M. College.....Stillwater, Okla.
James G. McCall, Farmer.....Vienna, Ill.
Pliny E. Means, Engineer.....Miami, Ariz.
Albert I. Moore, Principal of City Schools.....Garvin, Okla.
Raymond H. Moore, Real Estate and Loans.....Stillwater, Okla.
Oliver T. Peck, Book Business.....Clinton, Okla.
Ida M. Stover, Teacher, City Schools.....Ramona, Okla.
Clarence A. Wood, Civil Engineer.....Tulsa, Okla.
Ed Znamenacek, Commonwealth Edison Electric Co.....Chicago, Ill.

1909

Maurice R. Bentley, Farmer.....Charley, Texas
True C. Blue, General Electric Co.....Schenectady, N. Y.
Harry C. Boutin, Commonwealth Edison Electric Co.....Chicago, Ill.
Olive B. Bradwell, at Home.....Mulhall, Okla.
Clarence K. Bullen, Lumber Business.....Stillwater, Okla.
Markus P. Burke, Civil Engineer.....Salt Lake City, Utah
Orpha M. Caton, Assistant in Domestic Economy, A. & M. College.....Stillwater, Okla.
Homer U. Cloukey, Assistant Chemist, Pennsylvania Experiment Station..... .....State College, Pa.
Charles W. Crawford, Assistant Station Chemist, A. & M. College.....Stillwater, Okla.
Glenn M. Gaasch, Gulf Pipe Line Co.....Tulsa, Okla.
Edward C. Gallagher, Assistant Physical Director, A. & M. College.....Stillwater, Okla.
Frank A. Gougler, Agriculturist, Connors State School of Agriculture....Warner, Okla.
Joy B. Hancock, Professor of Domestic Science, Oklahoma Industrial Institute, ...Chickasha, Okla.
Ora L. Hemphill, Construction Engineer, Interurban.....Stillwater, Okla.
Fred H. Ives, Special Agent U. S. Department of Agriculture in Farmers' Co-operative Demonstration Work.....Porter, Okla.
Norma N. Johnson, Bookkeeper.....Stillwater, Okla.
Cecil I. Kirkpatrick, Professor of Domestic Science, Cameron State School of Agriculture .....Lawton, Okla.
Wilbur L. Lahman, Ice Business.....Stillwater, Okla.
Ray V. Lindsey, Moore & McClure Engineering Co.....Clinton, Okla.
Lloyd C. Mitchell, Laboratory Helper, Bureau of Chemistry.....Washington, D. C.
Samuel L. McMullin .....Manchester, Okla.
William H. McPheeters, Instructor, Connell State School of Agriculture..Helena, Okla.

Ollie Needham, Westinghouse Electric & Manufacturing Co. ..... Pittsburg, Pa.
Mamie Springer, Teacher in City Schools ..... Ramona, Okla.
Albert A. Stebbins, at Home ..... Garber, Okla.
Robert R. Stebbins, at Home ..... Enid, Okla.
Forest L. Stewart, Texas Pipe Line Co. ..... Tulsa, Okla.
Nannie Stover, Teacher, City Schools ..... Bartlesville, Okla.
J. Arnold Tate, Professor of Mathematics, Pan-Handle Agricultural Institute, ... Goodwell, Okla.
Bonnie R. Tillotson, Hospital Nurse ..... Shreveport, La.
Herbert L. Treeman, Commonwealth Edison Electric Co. ..... Chicago, Ill.
Mabelle L. Wise, at Home ..... Stillwater, Okla.

ROLL OF STUDENTS

Special Graduate Students

Johnson, Norma, Stillwater
Lahman, Wilbur L., Stillwater
McElroy, Clarence, Stillwater
Morgan, Bernice, Stillwater

Seniors

NAME	COURSE	RESIDENCE
Allen, H. S.	Engineering	Uncas
Baade, H. J.	Science and Literature	Stillwater
Camp, W. E.	Engineering	Haskell, Texas
Clausen, R. E.	Agricultural	Stillwater
Faulds, N. M.	Engineering	Enid
Fisher, J. Guy	Engineering	Garber
Funda, Fred P.	Engineering	Devils Lake, North Dakota
Gammie, Robert J.	Engineering	Stillwater
Gollehon, Floyd	Engineering	Stillwater
Hagar, Hyral	Science and Literature	Stillwater
Hamilton, J. Homer	Science and Literature	Ash Grove, Missouri
Hamilton, F. C.	Science and Literature	Mulhall
Hamon, Chester A.	Engineering	Stillwater
Hildebrand, Lee E.	Engineering	Stroud
Jones, C. Shelly	Engineering	Sayre
Kenyon, R. E.	Engineering	Kaw City
King, Beverly D.	Engineering	Wharton, Texas
Kirkpatrick, V. Victoria	Science and Literature	Stillwater
Kooken, E. Ralph	Agricultural	Kingfisher
Lawellin, S. J.	Science and Literature	Stillwater
Lewis, Myrtle I.	Domestic Science and Arts	Stillwater
McBride, Iva A.	Domestic Science and Arts	Stillwater
Moote, Truman P.	Engineering	Stillwater
Neuman, Leo M.	Engineering	Stillwater
Oursler, Archie C.	Agricultural	Stillwater
Pochel, Roy A.	Engineering	Stillwater
Ritter, Lawellyn B.	Teachers' Normal	Hobart
Rogers, Elmira B.	Domestic Science and Arts	Stillwater
Ross, Samuel I.	Engineering	Cane Hill, Arkansas
Selement, Frank J.	Engineering	Yukon
Shaw, Annie M.	Teachers' Normal	Mill Creek
Smith, C. Ray	Science and Literature	Stillwater
Spaulding, Harry B.	Science and Literature	Ralston
Speidel, John M.	Agricultural	Edmond
Spohn, Ralph E.	Engineering	Glencoe
Straub, Otto T.	Agricultural	Amarillo, Texas
Talbot, Nora A.	Teachers' Normal	Stillwater
Tibbetts, Frank J.	Engineering	Rincon, New Mexico
Vezey, Earl E.	Engineering	Orlando
Walters, Marguerite P.	Domestic Science and Arts	Stillwater
Walters, Minnie D.	Domestic Science and Arts	Stillwater
Watrous, Robert O.	Engineering	Stillwater
Will, Doris	Engineering	Glencoe
Williams, Guy P.	Engineering	Stillwater
Wilson, Harry E.	Engineering	Winfield, Kansas
Woodworth, Clyde M.	Agricultural	Perry
Worthington, Wayne H.	Engineering	Stillwater

Juniors

NAME	COURSE	RESIDENCE
Aikins, Evelyn M.	Domestic Science and Arts	Stillwater
Allen, Richard N.	Engineering	Garber
Austin, Wm. H.	Engineering	Kremlin
Beauchamp, Wade	Science and Literature	Anadarko
Blackwell, Carl P.	Science and Literature	Floydada, Texas
Bonnett, Howard E.	Engineering	McLoud

Brewer, Emerich H.	Engineering	El Reno
Burke, Wm. J.	Engineering	Stillwater
Chivington, Anna	Domestic Science and Arts	Stillwater
Davis, R. Noaman	Agricultural	Stillwater
Dorman, Will S	Engineering	Pond Creek
Frier, Clarence H.	Engineering	Sulphur
Galyon, Edgar O.	Engineering	Lawton
Gardner, Frank	Engineering	Fairfax
Hall, Roy V.	Engineering	Buchanan, West Virginia
Hamon, Robert J.	Science and Literature	Stillwater
Hanna, Paul D.	Agricultural	Galveston, Texas
Harvey, Carl F.	Engineering	Stillwater
Hiet, Melvin E.	Engineering	Stillwater
Hoke, George A.	Science and Literature	Quay
Hopps, Carl W.	Engineering	Lawton
Hubler, Willis A.	Science and Literature	Newkirk
Jessee, Walter B.	Agricultural	Supply
Kester, Milton R.	Engineering	Enid
Kirkpatrick, Katie C.	Science and Literature	Stillwater
Larson, John E.	Agricultural	Stillwater
Lawellin, Robert C.	Engineering	Stillwater
Leicht, Harry S.	Engineering	Coldwater
McArthur, Clifford L.	Science and Literature	Stillwater
McBride, John D.	Science and Literature	Stillwater
McIntyre, Jesse C.	Engineering	Stillwater
McKay, M. Bert	Teachers' Normal	Lawton
McPheeters, Margaret	Domestic Science and Arts	Stillwater
Mayall, Samuel J.	Engineering	Edmond
Moore, Allen	Science and Literature	Gower, Missouri
Moskedal, Olga	Domestic Science and Arts	Guthrie
Oursler, Clark M.	Science and Literature	Stillwater
Owen, Frank S.	Engineering	Bedford, Indiana
Reed, Fred A.	Engineering	Oklahoma City
Regnier, Miles A.	Engineering	Ponca City
Ross, James K.	Engineering	Madill
Schnurr, Cornelius	Engineering	Orlando
Smith, Joe G.	Agricultural	Dallas, Texas
Stewart, Annabel	Science and Literature	Stillwater
Trueax, Clyde P.	Engineering	Pond Creek
Walton, Noel H.	Engineering	Guthrie
Watson, Dallas H.	Engineering	Chandler
Wikle, Hugh H.	Engineering	Orlando
Wilde, Charles A.	Teachers' Normal	Cleveland
Wildman, Arthur H.	Engineering	Geary
Winters, N. Elmer	Agricultural	Cashion

Sophomores

NAME	COURSE	RESIDENCE
Albright, J. Warder	Engineering	Stillwater
Baker, Cammie Aynes	Domestic Science and Arts	Stillwater
Bartlett, Ellsworth C.	Agricultural	Stillwater
Bartlett, Edward E.	Science and Literature	Stillwater
Birmingham, R. C.	Agricultural	Stillwater
Blakeburn, J. W.	Agricultural	El Reno
Bloom, Chas. H.	Engineering	Jennings
Buchanan, W. Archie	Agricultural	Stillwater
Buffington, Betha E.	Domestic Science and Arts	Stillwater
Bullen, Bernard C.	Science and Literature	Stillwater
Casoli, Louise	Domestic Science and Arts	Guthrie
Clark, Charles L.	Science and Literature	Stillwater
Clausen, Curtis P.	Agricultural	Stillwater
Clausen, Beryl O.	Engineering	Stillwater
Coburn, Carrol	Engineering	Okarche
Comstock, Frank	Engineering	Stillwater
Connell, Wm. B.	Engineering	Stillwater
Conner, W. A.	Agricultural	Stillwater
Cook, Harold P.	Engineering	Guthrie
Correll, Vincent I.	Science and Literature	Stillwater
Cory, John M.	Engineering	Mulhall
Crocker, Fred	Science and Literature	Stillwater
Diehl, Clarence J.	Engineering	Mulhall
Dolde, Wm. Earl	Engineering	Guthrie

Drake, James Treharn	Science and Literature	Stillwater
Duck, Thomas W.	Engineering	Keystone
Dumas, Clara	Science and Literature	Stillwater
Evans, A. Ray	Agricultural	Stillwater
Forney, Charles	Agricultural	Kingfisher
Frenzel, Harry H.	Engineering	Sentinel
Freiday, Almira P.	Domestic Science and Arts	Stillwater
Gaudian, Will	Engineering	Dallas, Texas
Gerardy, Grace	Teachers' Normal	Chandler
Goom Autsin	Science and Literature	Stillwater
Gregory, Howard W.	Agricultural	Apache
Hann, Fred Roderick, Jr.	Engineering	Pawnee
Harcourt, Roy A.	Teachers' Normal	Davidson
Harnden, Edward E.	Science and Literature	Stillwater
Harrison, Robert L.	Science and Literature	Stillwater
Hartshorne, Eugene	Engineering	Ponca City
Herrick, Harlan C.	Engineering	Enid
Hewitt, John Russell	Agricultural	Coyle
Hill, Vera Mae	Science and Literature	Stillwater
Hobbs, Hugh	Engineering	Capitol Hill
Hoke, Mac	Agricultural	Quay
Jay, Maxwell B.	Engineering	Pawnee
Jeffords, Sherman L.	Agricultural	Stillwater
Johnson, Stephen B.	Agricultural	Ada
Kilpatrick, Earl	Agricultural	Hunter
Knoblock, Fred L.	Engineering	Stillwater
Lowman, Edward F.	Science and Literature	White Rock
Lynch, Harold W.	Engineering	Hennessey
Lytle, Albert E.	Agricultural	Oklahoma City
McCaslin, Woodford W.	Engineering	Oklahoma City
McPheeters, Archie A.	Engineering	Stillwater
Merydith, Clarence	Agricultural	Stillwater
Milner, George R.	Engineering	Asher
Mitchell, Clifton S.	Agricultural	Chandler
Mitschrich, Melville F.	Engineering	Lawton
Neibert, James S.	Engineering	Stillwater
Nellis, Wayne H.	Engineering	Pawnee
Neuman, Iva F.	Domestic Science and Arts	Stillwater
Norman, Marianna	Teachers' Normal	Stillwater
North, Kate	Science and Literature	Tulsa
Oschman, Maude	Science and Literature	Stillwater
Oursler, Elizabeth M.	Science and Literature	Stillwater
Painter, Ray H.	Science and Literature	Stillwater
Payne, Loyal F.	Agricultural	Shawnee
Perrine, George I.	Science and Literature	Fairfax
Pierce, Albert Edward	Engineering	Ramona
Potter, Frank A.	Science and Literature	Stillwater
Potter, William T.	Agricultural	Stillwater
Pribbenow, Ferdinand	Science and Literature	Tryon
Priest, Stella Irene	Science and Literature	Sabetha, Kansas
Reed, Clinton John	Engineering	Eddy
Robinson, Harold	Agricultural	Perry
Rudd, E. Lynn	Engineering	Tulsa
Santee, Leonard A.	Engineering	Goltry
Shallenberger, Garvin D.	Science and Literature	Wcleetka
Smith, Marion C.	Engineering	Tulsa
Smith, J. Allen H.	Agricultural	Dallas, Texas
Spurrier, Odith K.	Engineering	Guthrie
Sutton, Ray	Agricultural	Kingfisher
Swope, Harold	Engineering	Stillwater
Talbot, Alfred E.	Agricultural	Stillwater
Talmage, Imogene	Science and Literature	Jourdanton, Texas
Tillotson, Albert K.	Science and Literature	Stillwater
Tongue, Geo. F.	Engineering	Dallas, Texas
Vandervoort, Levi A.	Engineering	Bison
Wright, Louise	Science and Literature	Stillwater

Freshmen

Albert, Harold R., Stillwater
Allen, Floyd, Stillwater
Allen, John L., Garber

Anderson, Edward, Centralia
Andrews, Leonard R., Stillwater

Bennett, Foy Roys, Shawnee
Bieghler, Nora M. Merrick

Brook, Hazel, Stillwater
Brown, C. B., Speermore

Birmingham, Ethel N., Stillwater
Bonar, H. T., Prague
Brinkman, Gillespie, Yukon
Brodell, A. C., Keystone

Camp, Hoover, Poalis
Clark, James A., Stillwater
Clausen, Elsie M., Stillwater

Dale, Ernest B., Headrick
Dannenburg, Grady, Chelsea
Denham, Ralph R., Oklahoma City

Epperson, Jesse H., Anadarko

Failing, Harry, Tulsa
Fix, Fred L., Stillwater

Gelmers, H. J., Newkirk
Ginter, Roll, Elmwood
Gravelle, E. E., Olustee
Gray, Wm. F., May

Hamilton, Fern, Stillwater
Hampton, Walton G., Albany
Hancock, Hull H., Tulsa
Harrison, L. D., Sayre
Harvey, John W., Renfrow
Hedger, H. R., Hooker

Jacob, A. W., Stillwater
James, Helen, Stillwater

Kimball, H. H., Stillwater
Krepps, Samuel, Oklahoma City

Lenocker, Jacob E., Stillwater
Loop, Fred L., Manchester

McIlvain, Charles, Ponder, Texas
Melton, W. A., Goltry
Merrifield, Fred R., Enid

Neerman, Claude, Stillwater

Pearson, Thirza, Yale

Rhoades, T. W., Manitou
Ritchey, Pearl, Stillwater
Robertson, Alonzo, Columbus, Ky.

Sanders, Alice M., Omega
Sater, Joe E., Stillwater
Schreiber, Stuart, Stillwater
Seeger, Ernest C., Bliss
Shoop, C. E., Apache
Sieglinger, John, Lone Wolf

Talmage, C. R., Yukon
Taylor, Chas. E., Bliss
Taylor, Nellie, Stillwater

Van Arsdell, Ruth A., Yates

Walters, Julia, Stillwater
Watrous, Minnie E., Stillwater
Watson, W. E., Stillwater
Weaver, G. E., Stillwater
Wells, Dean S., Stillwater
Wells, Edmund, Kingfisher
Whillock, Beuna E., Stillwater

Brown, O. C., Natura
Burke, Elizabeth, Stillwater
Burton, Dora Vest, Stroud

Cobb, A. L., Eddy
Conner, Russell, Stillwater
Cox, Mary E., Stillwater

Dorman, Vernon, Pond Creek
Dowell, Elmer F., Perry

Evans, Ruby, Collinsville

Ford, W. W., Stillwater
Fulton, Wm. L., Sulphur

Green, Brook, Pawnee
Griggs, O. C., Dale
Gumaer, Ira W., Kendrick

Heisler, Philip, Chickasha
Hewit, Joe, Guthrie
Hicks, Homer W., Bluejacket
Hightower, Wilbur, Guthrie
Higgins, Artis, Stillwater
Hunt, Esther E., Stillwater

Janeway, Helen, Stillwater
Jones, Daisy L., Stillwater

Krone, Floy C., Sparks

Lovell, Thomas J., Stuart
Lowery, Ethel E., Stillwater

Miller, W. Samuel, Oklahoma City
Mitchell, Glenn A., Guthrie

Newton, O. Edna, Stillwater

Preston, Charles R., Sulphur

Rogers, Eulala, Stillwater
Rogers, Guy F., Ames

Skinner, Harry C., Weleetka
Smith, H. H., Apache
Smith, Sam P. C., Dallas, Texas
Smoot, Ellen, Stillwater
Snyder, Beryl, Hayward
Snyder, Georgia, Stillwater

Thompson, Grady, Stillwater
Tryon, Blanch, Stillwater
Tucker, Chas. M., Sulphur

Vance, Edna, Stillwater

White, Harry H., Oklahoma City
Williams, R. L., Stillwater
Williamson, Carrie, Stillwater
Wilson, Carl F., Oklahoma City
Wood E. Lee., Stillwater
Worley, Florence M., Stillwater
Wright, Harley M., Cashion

Sub-Freshmen

Abercrombie, Russell, Cashion
Albright, Gae Ione, Perkins

Anderson, Albert A., Enid
Austin, Charles M., Norman

Baker, France, Lockney, Texas
Balch, Calvin, Merrick
Barnes, H. Dale, Cereal
Bartholomew, J. P., Pawnee
Bellis, Ida O., Stillwater
Birmingham, Alva C., Stillwater
Blackwell, Floyd W., Stillwater
Blosser, R. Frank, Elmwood
Boone, Fred, Edmond

Braswell, Stanton, Glencoe
Bratin, Vita V., Stillwater
Briggs, Glenn, Garber
Brooke, Vere, Stillwater
Brown, Maurice Y., Agra
Bugbee, Hugh, Mangum
Burrell, Della, Stillwater
Burke, Helen, Stillwater
Butler, Joe B., Omega

Cain, Philip, Albany
Cale, Frank, Jr., Renfrow
Carter, Berry, Pawnee
Caton, Harry, Stillwater
Charleville, John W., Sulphur
Chevalier, Percy, Watonga
Chilcote, Pearl, Perkins
Chivington, Maybelle, Stillwater
Cinnamon, Roland Earl, Garber
Cinnamon, George, Garber

Clark, Joe, Chelsea
Clark, Paul, Stillwater
Clausen, Nellie C., Stillwater
Clopper, Gus, Centralia
Connell, James S., Stillwater
Correll, R. H., Stillwater
Covalt,, Oscar, Woodward
Crawford, Hanson Lee, Stillwater
Currey, Mary, Stillwater

DeBord, George G., Stillwater
Dement, Stoney, Kent
DeMunbrun, H. Clyde, Greenfield
Diggs, Luella Hill, Stillwater
Donart, Gladys, Stillwater

Drake, Paul, Tecumseh
Drummond, Cecil, Hominy
Drummond, Frederick G., Hominy
Duckworth, Robert, Siloam Springs, Ark.
Durham Pearl, Stillwater

Eastman, Robert, Anadarko
Effken, Fritz, Stillwater

Ellington, Ilsa G., Wagoner
Evans, Alfred G., Cayuga

Fillmore, Roscoe L., Glencoe
Fischbach, Lena, Stillwater
Ford, Bell, Perkins
Freeman, Ray, Tucumcari, New Mexico

Frick, Edward, Stillwater
Frohock, Benj. H., Stillwater
Frohock, Marie E., Stillwater

Gammie, Thomas, Ponca City
Gibson, Mary E., Grove
Gilletine, Terry F., Eldorado
Goodman, Wm. Archie, Stillwater

Graham, Quentin, Swink
Gray, Helen, Stillwater
Gray, Willis N., Stillwater

Hagar, Wm. Edgar, Stillwater
Hamblin, Carrie, Stillwater
Havenstrite, Ralph W., Lovell
Heisler, Charles A., Chickasha
Hendrickson, Elmo, Cobb
Henshaw, Walter, Guthrie
Hermann, Bertha D., Mustang
Hickam, Elmer B., Perkins
Hickerson, Basil, Pawhuska
*Hiet, Altha M., Stillwater
Hiet, Sadie, Stillwater

Hinkle, John W., Stillwater
Hoke, Rhoda C., Quay
Hopkins, Wm. W., Stillwater
Houck, Miriam Afton, Stillwater
Houser, John, Sapulpa
Hoy, Ray, Norman
Huffman, Lewis, Stillwater
Hume, John P., Coalgate
Hunt, Ruth A., Stillwater
Hurst, Otie, Orlando
Hutchins, Hugh A., Guthrie

Jeffords, Mary E., Stillwater
Johnson, Lawrence A., Stillwater
Johnson, Lydia, Ada
Jones, G. C. Jr., Ardmore

Jones, Eva, Stillwater
Jones, George Stanley, Stillwater
Jones, Jeanette Hazel, Stillwater
Jordan, Charles Neal, Grand Valley

Kenyon, Lucille, Kaw City
Keyser, George, Perry
Kirby, John C. Jr., Altus

Kilgore, J. B., Chickasha
Klotzmann, Otto J., Nashville

Liebenheim, Harry, Pawnee
Lindbeck, Clifford, Wakita

Lindsey, James A., Kingfisher

Martin, William, Calumet
Mathews, Frank, Mulhall
McBride, Pearl K., Stillwater
McCaslin, Don, Oklahoma City
McGintey, George Erle, Lovell
McRoberts, Azelle L., Stillwater
McRoberts, Velma R., Stillwater
Meyerdirk, Evalina, Pawnee

Miller, Wendell, Stillwater
Miller, Richard, Capitol Hill
Miller, Robert Lee, Capitol Hill
Miller, Winfred L., Stillwater
Mohr, Burton L., Mustang
Mohr, Jessie, Mustang
Moore, Mildred Ruth, Stillwater
Morgan, Murl Eric, Stillwater

*Deceased

Miller, Ray James, Perkins
Miller, T. Reid, Beaver City

Neerman, Alma J., Stillwater
Neuman, Eleanor, Stillwater
Nichols, Olin O., Oakley

Owens, Chas. L., Perkins

Patty, Isaac, Coodys Bluff
Pratt, Wayne, Kiowa

Ready, Panthea A., Ryan
Reid, Guy Clifford, Stillwater
Richey, Wilber, Stillwater
Roark, Floyd Beatcher, Coyle

Sanders, Charles, Indianapolis
Sanders, Grover, Omega
Sargent, Edwin M., Stillwater
Schein, Emil, Richland
Schneider, Harry W., Garber
Schwork, C. W., Arkansas City, Kans.
Shannon, Robert Lee, Chickasha

Taylor, Edwin C., Stroud
Taylor, Forest E., Stillwater
Taylor, Alta, Stillwater
Taylor, Inez, Stillwater

Vance, Dean, Stillwater

Wadley, Dolphus, Stillwater
Watkins, Elbert, Hallett
Watson, Tom Perkins, Guthrie
Watson, Will Paul, Chattanooga
Weber, Albert G., Calumet
Welch, Wm. Terry, Hastings
Wheeler, Opal, Oklahoma City
Whetstone, Irene, Stillwater
Whipple, Arthur Floyd, Stillwater

Young, Kenneth R., Stillwater

Morrison, Florence, Goodnight
Morrow, Ella May, Perkins

Norrie, Lottie, Stillwater
Nunn, Wesley Irvin, Shawnee

Price, Glenn C., Stillwater

Roeser, Harry, Perry
Roberts, Vera B., Stillwater
Rushing, Oscar, Altus
Ryon, Richard Eugene, Bristow

Shawver, Emma, Stillwater
Smart, Sarah Fay, Stillwater
Smith, Charles L., Cleveland
Smith, Sam B., Weleetka
Snyder, Robert N., Stillwater
Stockton, Flora, Truscott, Texas
Suhl, Georgia Elva, Stillwater

Tennant, Grace I., Yukon
Tourtellotte, Evert, Stillwater
Tucker, Dixie B., Sulphur

Vanlandingham, Emil, Pauls Valley

Williamson, Emery, Stillwater
Wilmering, Walter Christopher, Guthrie
Wilson, Earl, Waurika
Wise, Oscar L., Stillwater
Wolfe, Lula M., Coyle
Wood, Ray A., Lahoma
Wright, Elmer Roy, Tryon
Wright, Arthur, Oklahoma City

Specials

Acheson, Rebecca P., Stillwater

Baker, Norton, Lockney, Texas
Belcher, Foy C., Stillwater
Bishop, Corinne, Stillwater
Brooke, Ethel, Stillwater

Carson, H. Annie, Stillwater
Chastain, R. M., Little
Cole, Lloyd, Stillwater
Collins, Blanche, Stillwater
Collins, Olive, Stillwater
Combs, Bertha, Stillwater

Dalton, Mary, Porter
Denman, W. H., Wayland, Texas
Diggs, Frances, Stillwater
Diggs, Mayme, Stillwater

Edwards, Forrest M., Lawton
Elliott, Allen, Okarche

Fravel, Mrs. Ira F., Stillwater

Gephart, Helen I., Coyle
Gibson, Cecelia, Grove
Gillespie, Francis, Ripley
Gipe, Romney, Perry

Buchanan, H. T., Whitesboro, Texas
Buddy, Edw. Louis, Dallas, Texas
Bushnell, Mrs. Olga L., Stillwater

Comegys, Helen, Ash Grove, Mo.
Comegys, Stella, Ash Grove, Mo.
Conway, Wm. Thos., Stillwater
Cripe, Florence, Stillwater
Currey, Cora N., Stillwater

Donart, F. Ruth, Stillwater
Dose, Christina B., Mounds
Dose, Josephine D., Mounds

Ellis, Alfred C., Muskogee

Gist, Lillian B., Stillwater
Glasgow, Frank R., Oklahoma City
Gollehon, Letha, Stillwater

Hagar, Alice J., Stillwater
Hardy, Pearl, Stillwater
Haskell, Joe, Guthrie
Hewitt, Paul M., Coyle
Hill, Edith, Stillwater
Hines, Charles W., Stillwater
Hoskinson, Anna M., Stillwater
Hughes, Josephine E., Stillwater

Ives, Pauline, Porter

James, Colum P., Stillwater
Johnson, Ora G., Davis

Kelly, Grace, Stillwater
Kennicutt, Earl, Stillwater
Kidd, C. C., Stillwater
Kidd, C. W., Stillwater
Knowles, Leah M., Stillwater

Lampke, Mrs. Alice B., Stillwater
Lahman, Ruth, Stillwater
Long, Amy, Chandler

McBride, Nellie L., Stillwater
McLean, Mary A., Stillwater
Meade, C. D., Stillwater
Moore, Lon, Cane Hill, Ark.
Morgan, Mrs. Hiram, Stillwater
Myers, Fern E., Stillwater

Neuman, Josie, Stillwater
Newton, Maud, Stillwater

Orr, Robert, Mountain Park

Pearce, Orpha, Agra
Potts, Frank, Stillwater

Reed, Florence, Stillwater

Shiflett, H. D,. Duncan
Smith, Charles A., Stillwater
Smith, J. Stayton, Mulhall
Stevens, Margaret M., Norbourne, Mo.
Stipp, James A., Temple
Studebaker, Rosa, Stillwater
Sutton, J. B., Prairie Grove, Ark.
Sutton, Leo, Stillwater

Tankersley, Percy A., Stillwater
Turner, James C., Lawton
Turner, Nellie, Lawton

Vance, Mrs. Rose, Stillwater

Walker, Wm. L., Cayuga
Warren, Pearl, Stillwater
Whittaker, N. Maude, Glencoe
Whitney, Ethel M., Adair
Wiley, Lucy, Stillwater
Wilson, Clay E., Stillwater
Wise, Myrtle, Stillwater

Business

Amspacher, James, Apache
Andrews, A. S., Stillwater
Atherton, Jesse, Stillwater
Atherton, Ray, Stillwater

Baber, Grace, Chandler
Barnes, May, Stillwater
Beauchamp, Bland H., Rush Springs
Billings, Jordan L., Stillwater
Bingham, Jesse, Eagle City
Black, Auman E., Fairmont
Bottz, Ethel, Stillwater
Bottz, Gladys M., Stillwater
Bowers, Anna L., Stillwater
Bowman, J. F., Rocky
Brinkmann, Harley, Yukon
Broaddus, Wm. I., Pawhuska
Brock, George T., Stillwater
Bryan, Frank, Stillwater
Burke, Catharine, Perry
Burney, Ed E., Chickasha

Caldwell, Wallace H., Canadian, Texas
Carter, Will R., Madill
Chapin, Charles H., Eldorado
Collins, Louis, Stillwater
Cox, Manford A., Tryon
Cox, Floyd, Stillwater
Crawford, Pearl W., Ripley
Cripe, Mabel, Stillwater
Croisant, George W., Coweta

Darlow, Harry, Stillwater
Dotter, Dora, Stillwater
Drake, Chester, Goodnight
Dykes, Mabyl R., Stillwater

Fargo, Wm. W., Kellyville
Fenske, August C., Bonair, Iowa
Fowler, John H., Randlitt

Gallagher, I. Ruth, Stillwater
Garrett, Mabel J., Stillwater
Grove, Otto L., Meeker, Colo.

Hall, Nona E., Stillwater
Harrell, Wm. M., Roosevelt
Harrell, James H., Roosevelt
Harris, F. T., Grandfield
Henson, Mary Lou, Wayne

Jones, Donna, Stillwater

Kennicutt, Earl, Stillwater
Klingmann, Roy I., Binger
Knight, Richard, Stillwater

Lewis, Charles A., Ponca City
Love, James W., Tribbey
Marteny, Ralph, Goltry
McClintock, John H., Davidson
McFarren, Harry, Independence
McMahan, Andrew J., Apache
McVicker, Guy, Apache
Mcgee, Claude, Tulsa
Miller, Stella, Stillwater
Mitchell, William, McComb
Moebius, Minnie, Glencoe
Morrison, A. Maynard, Stillwater
Moss, Mrs. Hazel C., Stillwater

Northup, Evelyn, Stillwater

Oakes, Edgar O., Soper

Parker, George P., Comanche
Pickett, Orange Budd, Sapulpa
Pinson, Niles O., Skiatook
Pollard, Samuel A., Stillwater
Pound, Thomas F., Stillwater
Powell, Teddy, Calumet

Rew, Paul H., Lindsay
Riefkohl, Herman C., Grimes
Riner, Willie, Protection, Kans.
Robertson, Russel, Stillwater

Scott, M. A., Davidson
Smith, J. Blaine, Stillwater
Snowden, Jay O., Stillwater
Sollers, Willard H., Stillwater
Stipes, Wayne, Perkins

Thomas, Ira, Kellyville
Tudor, Lola, Stillwater

Wallace, V. Edna, Stillwater
Walter, John E., Kingfisher
Webber, Carl, Calumet
*Wiggs, R. L., Madill
Williams M. T., Rocky
Wilson, Thomas C., Bartlesville
Winbray, Jesse D., Stratford
Winn, Arthur P., Comanche
Woods, Clyde D., Looney
Worley, Helen L., Stillwater
Wright, Elmer R., Tryon

Yost, Harvey A., Billings
Yost, Wm. M., White Rock

*Deceased

Students in the School of Agriculture and Domestic Science

(First Year)

Abbott, Harmen R., Stillwater
Aldrich, De Witt, Medford
Anderson, Katie, Catoosa
Asher, Olin, Blackwell
Asher, Hugh, Blackwell

Bear, Stone Creeping, Colony

Carlisle, Floyd, Oklahoma City
Conway, Mrs. Mamie, Stillwater

Dohrer, Ernest C., North Fork
Dose, Adolph, Mounds

Fraser, Roy, North Fork
French, Mrs. Walter B., Fletcher

Gipson, Le Roy, Hastings
Gooding, Louis, Valliant
Graham, Douglas S., Swink

Hochman, Clarence A., Fort Cobb
House, George W., Claremore
Hutchinson, Clarence, Moore

Janes, Charles M., Meno
Jones, Lucile, Stillwater

Mayes, George L., Pryor Creek
Mayes, Hall, Pryor Creek
McDaniel, Duke, Leal
McKinley, John, Grey Horse
Michaelson, Margaret, Wheatland
Miller, Artie, Stillwater
Miller, Bessie, Stillwater

Payne, Lafayette, Stillwater
Pointer, Rosa, Stillwater
Potter, Ralph R., Perkins
Pullman, Grace, Stillwater

Roberts, Forest, Medford

Sayre, Eugene W., Morrison
Schneeberger, F. A., Geronimo
Scott, Dan, Grey Horse
Shannon, Robert Lee, Chickasha
Spalding, Edward, North Enid
Spence, William, Randlett
Svejkovsky, Clarence, Oklahoma City
Svejkovsky, Frank A., Oklahoma City
Sweeney, Robert, Wagoner

Taylor, Edward, Stroud
Tucker, Mrs. J. T., Stillwater

Vance, Marie, Stillwater

Walters, Lavonia, Stroud
Willhite, Homer, Mangum
Willson, Weaver, Meridian
Wilson, Harold K., Foraker
Wollam, Clinton S., Plain City, Ohio

Zimmerman, Anna, Stillwater

Students in the School of Agriculture and Domestic Science

(Second Year)

Balfour, J. Herschell, Bison
Borden, William Duncan, Piedmont
Brunkan, Harrison O., Gracemont

Caha, Ernest, Prague
Christmas, Arthur A., Pond Creek
Christmas, Loyd, Pond Creek
Cross, Albert, Sapulpa

Elledge, Clark, Blackwell

French, Walter B., Fletcher
Fry, Charles R., Hunnewell, Kansas

Hampton, Henry W., Dale
Hood, Clarence A., Braman
Houser, John, Sapulpa

Jones, Dudley, Shawnee

Keith, Charles M., Stillwater

Martin, Frank, Coyle
Mitchell, Charles, Carmen
Myers, Howard L., Hoopville

Patchell, Loyd R., Pauls Valley

Sorenson, E. O., Guthrie
Stevens, Thomas T., Braman
Stinson, Frank L., El Reno
Sudik, Miroslav, Oklahoma City

Wertz, Harold, Broken Arrow

Summer Normal Students

Adrean, Toner, Keystone
Anderson, Pearl, Yale

Bagwell, A. A., Ardmore
Baker, Clem, Glencoe
Baker, Mattie, Stillwater
Barnes, Anna, Tishomingo
Bartlett, Mrs. Etta, Stillwater
Basil, Elmer, Stillwater
Bassler, Emma A. Stillwater
Baughman, Edna, Ralston
Baughman, L. B., Ralston
Bell, Mrs. Ellen, Cushing
Bellis, Ida, Stillwater
Bieghler, Lottie, Merrick
Braden, Gertrude, Stillwater
Bradwell, Olive B., Stillwater
Bras, Sadie, Stillwater
Brattin, Vita, Stillwater
Bridwell, Lela, Perkins
Bridwell, Q. V., Perkins
Broom, Rose E., Howe
Buchanan, Grace V., Stillwater
Buckles, C. O., Peru, Kans.
Bullock, Noah P., Stillwater
Burke, Clara, Stillwater
Burke, Helen, Stillwater
Burke, Margaret, Stillwater
Burnham, Zoe, Stillwater
Burns, Stella, Vinco
Burrell, Della, Stillwater
Byrd, Julia, Fairland

Camp, Hoover, Poalis
Campbell, Elmer, Cushing
Carter, Audra, Glencoe
Caton, Orpha M., Stillwater
Cauley, Bert, Stillwater
Cawthon, J. S., Meeker
Collins, Louis, Stillwater
Collins, Olive, Stillwater
Colpitt, Ada B., Wann
Coon, Estella, Glencoe
Cotterman, Iva, Stillwater
Cox, Manford A., Stillwater

Chivington, Anna, Stillwater
Chrystal, I. G., Goodnight
Clark, Florence, Pawnee
Clingenpeel, Elver, Stillwater
Collins, Blanche, Stillwater
*Collins, Hixa, Stillwater

Dennis, J. S., Cushing
Dent, Nell B., Stillwater
Derrick, W. E. Perkins
Dillman, Charles E., Glencoe
Dillman, Earl, Glencoe
Dodd, Weddie, Glencoe

English, Maud, Mulhall

Farmer, May, Glencoe
Fix, Fred L., Stillwater
Flanagan, V. M., Keystone
Fraley, Hal B., Ardmore

Glen, Zelma, Shawnee
Gollehon, Letha, Stillwater

Hackel, Grace, Paris, Texas
Hagar, Alice J., Stillwater
Hamilton, F. C., Mulhall
Hamilton, J. Homer, Stillwater
Hamon, Fannie, Stillwater
Hancock, Joy B., Sophia
Hancock, Mary B., Stillwater
Harrison, Luella, Stillwater
Haug, B. S., Luther

Ikard, Nellie, Ardmore

Ives, Fred H., Porter
James, Mrs. Winifred, Kingfisher
Johnson, Emma M., Vinco
Johnson, Norma N., Stillwater
Johnson, Ora G., Davis
Jones, Carrie, Stillwater

Kennedy, Sarah, Stillwater
Keiser, S. E., Stillwater
King, Neta, Pauls Valley
Kinnick, Lucile, Perry

Lahman, W. L., Stillwater
Lahman, Pauline, Stillwater

Mann, Harriett E., Perkins
Mansfield, Clara, Ardmore
Martindale, C. L., Perkins
Miller, Dora B., Vera
Millhollen, Irene, Stillwater
Montgomery, Mamie, Stillwater
Moore, Beulah, Pauls Valley
Morris, Charles G., Kiel
Morrison, Agnes, Goodnight

Nance, G. W., Tecumseh
Nelson, Lizzie, Morrison
Neuman, Iva, Stillwater
Neuman, Mayme, Glencoe
Newton, Edna, Stillwater
Newton, Webb S., Stillwater

O'Keefe, Tim, Yale

Parmley, Elsie, Stillwater
Patrick, John C., Dover
Payne, Fern, Stillwater
Perry, Eva, Stillwater
Pharr, Queen, Berclair, Texas

Cox, Mary E., Stillwater
Cripe, Florence, Stillwater
Cross, Mabel, Glencoe
Cunningham, Mildred, Stillwater
Currey, Mary, Stillwater

Drake, Treharn, Stillwater
Dumas, Clara, Stillwater
Dumas, Ezra, Stillwater
Dungan, George A., Cushing
Durham, May S., Stillwater

Ewing, D. L., Hackberry

Franklin, Hattie, Cleveland
Frohock, Marie E., Stillwater
Frost, Maude, Valley

Goodin, Dora A., Cushing

Hemphill, O. L., Stillwater
Henderson, Retta C., Yale
Hesser, John, Glencoe
Hill, Susie, Glencoe
Holt, Howard J., Stillwater
Hoskinson, Anna, Stillwater
Hunt, Esther, Stillwater
Hunt, Eva, Stillwater
Hyden, Maymie, Cleveland

Jones, Daisy L., Stillwater
Jones, Donna, Stillwater
Jones, Eva, Stillwater
Jones, Glennie, Stillwater
Jones, W. R., Ripley

Kirkpatrick, Cecil, Stillwater
Kizer, Pearl, Jennings
Knight, Lillian, Stillwater
Knight, Myrtle A., Stillwater

Lewis, Carrie E., Stillwater

Morrison, Nellie, Goodnight
Moser, Cora L., Yale
McClanahan, Lula, Stillwater
McPheeters, Elinor, Stillwater
McPheeters, Margaret, Stillwater
McPheeters, Martha, Stillwater
McPheeters, Wm. H., Stillwater
McTaggart, Winnifred, Stillwater

Nickerson, Tressie E., Orlando
Nininger, Harvey, Coyle
Nivoche, Eugenie, Ardmore
Norrie, Katie A., Stillwater
Norrie, Mabel, Stillwater

Pickering, Beryl, Stillwater
Pierce, Ida L., Stillwater
Poole, Mrs. Emma T., Perkins
Prowant, Mearl, Stillwater

*Deceased

Redding, Lydia, Meramec
Reed, Agnes, Stillwater
Remington, Gertrude, Cushing
Ritchey, Belle M., Stillwater
Ritchey, Letha M., Stillwater
Roberts, Stella, Pauls Valley
Roffety, Sara, Cushing
Rogers, Eulala, Stillwater

Roper, Mabel, Ardmore
Rotroff, Cora, Glencoe
Ryan, Addie, Valley
Ryan, Cordie, Valley
Ryan, Edna B., Glencoe
Ryan, Nellie, Glencoe
Ryno, Bess, Stillwater
Ryno, Mrs. Lelic, Stillwater

Sargent, Bessie, Shawnee
Schein, Wm., Richland
Sharpnack, Mabel, Yale
Shorb, Mary C., Stillwater
Slater, Esther, Stillwater
Smith, C. Ray, Stillwater
Smith, Horace G., Mulhall
Smith, J. S., Stillwater
Smith, Leo B., Hallett
Snyder, Beryl, Stillwater
Snyder, Georgia, Stillwater
Spalding, Merle, Perkins

Spohn, Hazel, Glencoe
Springer, Mamie, Stillwater
Stewart, Grace V., Coyle
Stover, Bessie B., Stillwater
Stover, Ida M., Stillwater
Stover, Nanna, Stillwater
Straub, Sylvia E., Stillwater
Studebaker, Rosa, Stillwater
Suitor, Emma, Duncan
Suitor, Minnie, Duncan
Swartout, Bessie C., Cushing

Taylor, Alta, Stillwater
Taylor, Nell, Stillwater
Terwilliger, Aurora, Stillwater

Thornton, Jesse, Vauhillau
Tift, Mrs. Mattie B., Stillwater
Tillotson, Bonnie, Stillwater

Unger, E. J., Stillwater

Unger, Mrs. Nellie M., Stillwater

Van Arsdell, Ruth, Orlando
Van Kunkel, Anna, Perkins

Vermillion, Olive, Stillwater

Walden, Dora, Wynnewood
Ware, Flossie, Stillwater
Warren, Pearl, Stillwater
Watrous, Minnie E., Stillwater
West, Maude E., Stillwater
Whitaker, Maude, Glencoe
White, Lucile, Glencoe

Whitney, Ethel, Stillwater
Williams, Maranda, Stillwater
Willits, Deborah, Stillwater
Willits, Inez D., Stillwater
Wilson, Lela, Stillwater
Wood, Lee, Stillwater
Woolard, Alonzo, Stillwater

Youngblood, Katharine, Pauls Valley

Zickefoose, Nicholas, Keystone

Students in Special Course in Buttermaking

Cochran, M. T., Cordell

Daniels, Allen, Pawnee

Dove, Oscar, Glencoe

Foster, Harry, Seneca, Mo.

Fritchie, Edward A., Hobart

Greer, E. C., Woodward

Hart, John W., Orlando

Hiatt, William C., Stillwater

Jones, R. E., El Reno

Myers, Charles T., Weleetka

Schimmel, Wilhelm, Jr., El Reno

Shroyer, S. E., Tonkawa

Unwin, Charles O., Stillwater

Westervelt, Louis C., Norman

Whipple, Orval C, Stillwater

Yancy, Fred, Stillwater

Farmers' Cotton-Grading Course

Adams, W. J. Luther

Agee, A. C., Perkins

Barratt, Fred, Ripley
Bellis, J. H., Guthrie

Brown, J. W., Guthrie
Browning, C. C., Winsboro, Texas

Bohay, A., Cashion
Bradley, W. B., Newalla
Conrad, J. C., Cement

Buckman, Frank, Coyle

Dewitt, L. T. Lovell
Dobson, R. E., Carney

Durham T. J., Hastings

Evans, J. S., Stillwater
Evans, A., Stillwater

Evans, S. A., Guthrie

Fringer, Samuel, Newalla

Goeble, Dick, Coyle
Goode, G. M., Cheyenne

Groseclose, R. W. Enid

Ham, G. W. Jennings
Hensen, A. G., McLoud
Hesser, J. Y., Glencoe

Hines, C. H., Stillwater
Howerton, Gus, Cushing

Jelks, Fred, Okemah
Jones, R. C., Meramec

Julian, W. C., Cache

Lingo, J. T., Shawnee

Lowry, Dave, Guthrie

Markee, J. G. Stillwater
Meadows, W. R., Starkville, Miss.
Miller, G. L., Raydon

Moffatt, Tom, Cushing
McGrath, James F., Sayre

Newton, S. W., Stillwater

Ogee, T. A., Shawnee

Pruitt, Roy, Anadarko

Rhodes, A., Coyle

Rylands, A. F., Crescent

Sadler, J. W., Dodd City, Texas
Shibler, J. H., Newalla

Smeltzer, W. A., Stillwater
Smiles, J. L., Newalla

Thompson, F., Coyle
Tillotson, D. E., Shattuck

Tillotson, H. P., Stillwater

Van Arsdale, R. C., Ripley

Wells, E., Stillwater

Yeager, S. N., Glencoe

Farmers' Short Course

Abbott, Mrs. L. A., Stillwater
Adams, Myrtle, Tishomingo
Adams, T. C., Lafayette, Ind.
Adams, W. A., Stillwater
Adams, O. C., Stillwater
Ahrberg, A. W., Stillwater
Aikins, C. A., Stillwater
Aikins, Miss Maud, Pawnee City, Neb.
Aikins, Frank L., Pawnee City, Neb.
Aikins, D. L., Stillwater
Alderson, W. M., Stillwater
Alexander, E. C., Oklahoma City
Allen, J. D., Stillwater
Allen, Eva, Stillwater
Almond, J. H., Antlers
Anderson, W. G., Wichita, Kans.

Anderson, Mrs. J., Stillwater
Anderson, J., Stillwater
Anderson, W. J., Stillwater
Andrew, R. N., Stillwater
Andrews, Mrs. S. E., Stillwater
Andrews, J. H., Lone Wolf
Andrews C. L., Lone Wolf
Andrews, H. E., Stillwater
Andrews, Mrs. H. E., Stillwater
Ansley, E. P., Hugo
Applegate, T. D., Roll
Arkell, Thomas, Stillwater
Ash, J. R., Stillwater
Atherton, James, Stillwater
Atkinson, R., Stillwater
Atkinson, G. F., Stillwater

Badraun, B. E., Stillwater
Bahntge, H., Stillwater
Bailey, Mrs. Pearl, Stillwater
Bailey, L. W., Stillwater
Baker, C. L., Coyle
Barnes, J. H., Stillwater
Barnes, R. F., Stillwater
Barrett, F, Ripley

Bradenstine, W. E., Perkins
Brandon, Mrs. J. F., Stillwater
Brandon, J. F., Stillwater
Branson, C., Morrison
Brattin, Monta, Stillwater
Brewer, G., Glencoe
Brewer, W. C., Stillwater
Brewer, Ed E., Stillwater

Battice, Walter, Sac & Fox Agency
Beach, Van, Glencoe
Beaver, W. H., Lawton
Beery, Mrs. C. H., Stillwater
Beery, C. H., Stillwater
Bentley, W. D., Yukon
Benton, C. W., Glencoe
Berry, J. E., Stillwater
Berry, J. W., Pawnee
Best, L. E., Enid
Bigler, J. F., Stillwater
Bilger, James, Kingfisher
Biyeu, Robert I., Stillwater
Bilyeu, Jesse, Stillwater
Bird, Mrs. J., Stillwater
Bird, J., Stillwater
Bishop, L. J., Stillwater
Bishop, Geo. L., Cordell
Blair, J. W., Pleasant Valley
Blair, S. A., Pleasant Valley
Blake, J. F., Goodwell
Blanch, J. H., Stillwater
Blosch, E. H., Stillwater
Blosch, D. J., Stillwater
Bock, G. W., Stillwater
Bocock, Mrs. Annie, Stillwater
Bocock, T. S., Stillwater
Bocock, Miss Hazel, Stillwater
Bostwick, J. L., Pleasant Valley
Braden, J. B., Watseka, Ill.

Brewster, E. L., Norge
Bridenstine, V. A., Perkins
Briggs, Mrs. J. L., Stillwater
Briggs, J. L., Stillwater
Britton, W. V., Shawnee
Brock, Mrs. James, Lexington, Ky.
Brock, J. B., Stillwater
Brodell, P., Keystone
Brogdon, W. E., Tishomingo
Brooks, Mrs. S. E., Stillwater
Brooks, S. E., Stillwater
Brower, D. C., Stillwater
Brown, R. Uhl, Eufaula
Bruner, S. A., Stillwater
Brunkan, Edna, Gracemont
Brunkan, Fred, Gracemont
Brust, G. E., Wheatland
Bryan, Mrs. O. S., Stillwater
Bryan, O. S., Stillwater
Buck Luther, Hobart
Bullen, H. B., Stillwater
Burke, Mrs. M., Perry
Burke, M., Perry
Burke, Mrs. K., Stillwater
Burlison, Mrs. W. L., Stillwater
Burnidge, A. G., Stillwater
Burton, A., Perkins
Burton, Mrs. Rose, Perkins
Burton, B., Stillwater

Calkins, Mrs. L. H., Stillwater
Calkins, L. H., Stillwater
Callery, D. I., Avery
Cantwell, A. D., Stillwater
Carey, Mrs. S. P., Stillwater
Carey, S. P., Stillwater
Carey, Albert, Cushing
Carroll, L. F., Newkirk
Carter, Wm., Stillwater
Carter, Mrs. Joe, Stillwater
Caton, H. L., Stillwater
Cawwood, Ernest, Stillwater
Cawwood, C. C., Stillwater
Chambliss, Mrs. H., Stillwater
Chandler, Miss Emma, Stillwater
Chandler, Mrs. C. S., Stillwater
Chandler, C. S., Stillwater
Childress, Grant, Stillwater
Chivington, Mrs. Jennie, Stillwater
Chivington, C. O., Stillwater
Christ, Adler, Morrison
Cinnamon, Ralph, Garber
Cinnamon, Geo., Garber
Clark, F. D., Stillwater
Clark, J. W., Stillwater
Clark, D. M., Stillwater
Clark, T. J., Stillwater
Clary, Mrs. J. H., Ripley
Clary, J. R., Ripley
Clary, J. H., Ripley
Clausen, Mrs. S. J., Stillwater
Clausen, S. J., Stillwater
Clausen, Jens, Stillwater
Clausen, Mrs. Jens, Stillwater
Clausen, Mary, Stillwater
Clingenpeel, J. A., Stillwater

Clopton, W. H., Goodwell
Cobb, A. C., Wagoner
Cobb, G. B., Wagoner
Collins, S. J., Stillwater
Collins, Mrs. H. C., Stillwater
Collins, H. C., Stillwater
Compton, W. I., Stillwater
Conarro, Wm., Stillwater
Confrey, V., Ripley
Connell, Mrs. J. H., Stillwater
Conner, W. H., Stillwater
Conner, J. H., Chandler
Cook, Mrs. E., Stillwater
Cook, E., Stillwater
Cook, H., Stillwater
Cook, J. E., Stillwater
Cooley, Mrs. S., Harrah
Correll, Mrs. O. E., Stillwater
Correll, O. E., Stillwater
Couch, L. C., Vinita
Couch, Eugene, Jones
Courter, J. C., Stillwater
Cox, C. J., Stillwater
Cox, A. G., Stillwater
Cox, Mrs. J. H., Stillwater
Cox, J. H., Stillwater
Craig, G. W., Stillwater
Crall, John J., Avery
Crawford, J. T., Apache
Cripe, Mrs. D. E., Stillwater
Cripe, D. E., Stillwater
Crocker, Sadie, Tishomingo
Currey, O. P., Stillwater
Currey, Mrs. Russell, Stillwater
Currey, Russell, Stillwater

Dailey, John, Stillwater
Dalton, W. T., Broken Arrow
Daniels, Allen, Pawnee
Davidson, G. C., Pawnee
Dennison, Russell, Ainsworth, Iowa
Denoya, F. A., Burbank
Denoya, Alfred, Burbank
Dial, Hardy, Tecumseh

Doop, Philip, Stillwater
Douglas, J. A., Perry
Dove, Oscar, Glencoe
Drake, Loren, Perkins
Duck, C. A., Stillwater
Duck, C. B., Stillwater
Duck, E. W., Stillwater
Duck, Harry, Stillwater

Dicks, W. N., Stillwater
Diehl, Dan, Gotebo
Diggs, D. C., Ramona
Dix, Sam, Yale

Eakins, C. P., Stillwater
Edwards, M. F., Stillwater
Elliott, F. C., Mulhall
Elliott, J. C., Pauls Valley
Emmons, Mrs. T. C., Stillwater
English, Maude, Stillwater
English, W. L., Oklahoma City
Ent, Mrs. Charles, Helena

Fears, W. S., Broken Arrow
Fell, G. A., Cherokee
Ferguson, F. F., Mineo
Ferguson, G. W., Stillwater
Ferguson, O., Winfield, Kans.
Flannagan, John, Stillwater
Flesner, Mrs. Gerd., Stillwater
Flesner, Gerd., Stillwater
Flesner, Miss Helena, Stillwater
Flesner, Henry, Stillwater
Ford, W. L., Medford
Ford, Frank, Quay
Ford, A. E., Carrier
Forester, D. R., Tishomingo
Forgey, Henry, Stillwater
Forgey, Mrs. Stella, Stillwater

Gaach, H., Agra
Gammie, Mrs. L. A., Stillwater
Garrett, E. A., Stillwater
Gassert, Charles, Pawnee
Gassoway, Floyd, Stillwater
Gelmers, J. H., Newkirk
Giles, Mrs. A. M., Stillwater
Gilges, Miss Bess, Stillwater
Gilges, Mrs. Libbie, Stillwater
Gilges, L., Stillwater
Gill, Mrs. L. C., Stillwater
Gipe, G. W., Perry
Gist, Mrs. F. W., Stillwater

Hagar, Mrs. Alice, Stillwater
Hall, W. E., Stillwater
Hamblin, C. C., Stillwater
Hamlin, E. M., Stillwater
Hammers, S. B., Jennings
Hamon, W. S., Stillwater
Hangsven, S., Oklahoma City
Hank, J. H., Stillwater
Harrington, Wilbur, Perkins
Harrington, Holland, Perkins
Harrison, Mrs. L., Stillwater
Hart, Wesley, Orlando
Harter, J. P., Tulsa
Hartford, W. M., Oklahoma City
Harvey, Mrs. A. P., Stillwater
Hastings, James K., Perkins
Hastings, Mrs. John, Stillwater
Hastings, John I., Stillwater
Hatfield, A. M., Glencoe
Harfield, Ernest, Glencoe
Hearn, Isaac, Olathe, Kans.
Heid, Otto, Stillwater
Helberg, Fred, Morrison
Henson, J. E., Shawnee
Henson, J. L., Wayne
Henson, Mary Lone, Wayne
Herbert, J. E., Mulhall
Hiatt, W. C., Stillwater
Hickman, E. U., Purbank
Hickman, Homer, Purbank
Hiet, A. M., Stillwater

Duck, R. A., Stillwater
Dukeshur, Charles, Coburn, Iowa
Duncan, R. P., Otoe

Ent, Charles, Helena
Ent, Miss Mary, Helena
Estill, George, Carrier
Ethridge, A. A., Stillwater
Evans, A., Stillwater
Evans, Ed, Custer City
Evinger, J. D., Kildare
Ewell, Fred, Pawnee

Fortner, J. W., Stillwater
Fortner, L. P., Stillwater
Fortner, Willie, Stillwater
Foster, A. T., Stillwater
Foster, Harry, Ardmore
Fowler, Geo. M., Jones
Fowler, J. J., Stillwater
Fravel, Mrs. I. F., Stillwater
Freeman, J. D., Stillwater
Frieday, F. A., Stillwater
Friedemann, Mrs. Paul, Stillwater
Friedemann, Dr. Paul, Stillwater
Fritchie, Ed, Stillwater
Fry, Charles, Hunnewell, Kans.
Fultz, B. R., Stillwater

Gist, F. W., Stillwater
Glasgow, W. A., Helena
Gould, Mrs. P. A., Stillwater
Gould, P. A., Stillwater
Green, D. C., Alva
Green, W. D., Stillwater
Gregg, W. R., Tecumseh
Greiner, Leo, Stillwater
Greiner, P. P., Stillwater
Griffith, A. P., Stillwater
Gudgel, T. E., Stillwater
Guinn, Mrs. Anna, Stillwater
Gutzman, E., Cordell

Highfield, J. H., Orlando
Hill, Mrs. B. A., Stillwater
Hill, Frank, Ponca City
Hill, Leonard, Stillwater
Hines, Chas. W., Stillwater
Hines, S. M., Stillwater
Hinkle, W. H., Stillwater
Hoke, Ray, Quay
Holbrook, Dr. I. W., Perkins
Holmes, O. W., Guthrie
Holt, Mrs. L. H., Stillwater
Holt, L. H., Stillwater
Holton, C. M., Helena
Holzer, Charles, Stillwater
Holzer, Chris, Stillwater
Holzer, Vern, Stillwater
Honegger, A., Kingfisher
Honegger, Oscar, Kingfisher
Honoker, C. M., Stillwater
Horsfall, Frank, Helena
Horton, G. S., Stillwater
Horton, Ollie, Stillwater
Hoskins, Everett, Quay
Hoskinson, Minnie, Stillwater
Hoskinson, C. S., Stillwater
Houston, C. C., Davenport
Huffman, F. A., Stillwater
Hull, S. R., Cleveland
Hunt, Mrs. W. H., Stillwater
Hunt, W. H., Stillwater
Hurst, J. H., Stillwater

Ide, B. E., Oklahoma City
Inglish, R. W., Stillwater

Jacob, John, Stillwater
Jacob, Louis, Stillwater
James, A. C., White City, Kans.
Jeffords, Mrs. T. M., Stillwater
Jessee, F. C., Glencoe
Jesse, George, Glencoe
Jones, Eber, Stillwater
Jones, Mrs. D. E., Stillwater
Jones, Mary E., Stillwater

Kealiher, A. R., Helena
Keith, C. L., Stillwater
Keller, A., Stillwater
Keller, F. D., Shawnee
Kelly, W. T., Stillwater
Kemp, J. E., Tishomingo
Kerns, J. H., Stillwater
Kerns, T. P., Stillwater
Kerntke, Richard, Stillwater

Lahman, Frank E., Stillwater
Langshaw, Mrs. H., Stillwater
Langshaw, Hugh, Stillwater
Leach, Mrs. N., Stillwater
Leach, N., Stillwater
Lee, J. D., Stillwater
Leigh, D. B., Stillwater
Leininger, P., Stillwater
Lenocker, Mrs. J. W., Stillwater

Macley, Mrs. W. H., Ripley
Macley, W. H., Ripley
Mahan, I. S., Oklahoma City
Malcom, D. W., Pawnee
Manning, Oscar, Chandler
Marple, W. W., Muncie, Ind.
Marsh, J. A., Kingfisher
Martin, J. E., Orlando
Mason, Claude, Tishomingo
Masten, E. E., Chandler
Mayfield, Tom, Stillwater
McBride, R. J., Stillwater
McDivitt, F. H., Shawnee
McDonald, T. M., Stillwater
McGraw, C. W., Stillwater
McGreer, Ray, Oklahoma City
McIntyre, D. C., Stillwater
McKay, G. L., Chicago
McKinnon, J. M., Stillwater
McMullin, W. J., Stillwater
McNabb, Floyd, Quay
McNaught, J. C., Kingfisher
Meek, J. N., Stillwater
Meigs, L. G., Cereal
Melton, Mrs. C. A., Stillwater
Melton, J. B., Shawnee
Metzer, Albert, Coyle
Miller, Mrs. J. P., Jet
Miller, J. P., Jet

Nay, George, Enid
Nelson, J. H., Perry
Nelson, Craton, Stillwater
Neuman, Mrs. A. F., Stillwater

Olson, N. E., Tryon
Oschman, Fred, Stillwater
Oursler, J. A., Stillwater
Owen, Ellis, Ponca City

Packard, L. S., Helena
Painter, M. B., Stillwater
Painter, G. W., Stillwater

Irby, D. T., Tonkawa

Jones, Harry, Stillwater
Jones, L., Stillwater
Jones, Mrs. Minnie, Stillwater
Jones, R. E., El Reno
Jones, W. C., Mustang
Jordan, W. B., Hastings
Judge, W. H., Perkins
Juenger, Joseph E., Catoosa

Kidder, G., Ripley
Kidder, Mrs. G., Ripley
King, Mrs. E. E., Stillwater
Kirby, B. F., Stillwater
Kirby, F. P., Stillwater
Kirkpatrick, J. H., Stillwater
Knight, J. H., Coyle
Knipe, W. A., Perkins
Kyle, E., Stillwater

Lenocker, J. W., Stillwater
Le Ward, Wm., Stillwater
Lewis, G. W., Stillwater
Lincoln, A., Guthrie
Linden, John, El Reno
Long, J. J., Stillwater
Losey, T. B., Chickasha
Lovett, A. E., Hunter
Lowe, N. T., Agra

Miller, G. W., Kildare
Miller, Mrs. H. P., Stillwater
Miller, Herman, Kildare
Millikan, W. F., Stillwater
Miltimore, Mrs., Stillwater
Mitchell, F. A., Davenport
Mitchell, Mrs. J. T., Stillwater
Mitchell, J. T., Stillwater
Mitchell, E. A., Stillwater
Mohler, H. B., Guthrie
Moore, George A., Pawnee
Moore, Mrs. G. A., Pawnee
Moore, G. E., Stillwater
Moore, D. E., Stillwater
Moore, J. E., Stillwater
Moore, R. H., Stillwater
Moran, Thomas, Coyle
Morgan, M. G., Stillwater
Morgan, T. H., Stillwater
Morris, A. M., Stillwater
Morris, J. W., Stillwater
Morris, R. E., Stillwater
Morrison, Frank, Goodnight
Morrow, J. H., Perkins
Mulkey, B. R., Lamont
Mullendore, E. C., Cleveland
Myers, S. M., Stillwater
Myers, C. T., Weleetka

Neuman, A. F., Stillwater
Nichols, J. E., Stillwater
Nissley, J. E., Guthrie
Northup, Mrs. Eddy, Stillwater

Ownbey, R. L., Stillwater
Oyster, L. A., Stillwater
Oyster, C., Stillwater
Oyster, Ray, Stillwater

Painter, Mrs. Minnie, Stillwater
Painter, Sam, Stillwater
Paris, T. H., Stillwater

Parker, G. C., Purcell
Parrick, George, Glencoe
Parrott, W. T., Stillwater
Patton, W. I., Stillwater
Patton, S. J., Stillwater
Patton, S. C., Stillwater
Paullin, D. C., Newkirk
Payne, John L., Stillwater
Peer, John W., Skedee
Perrine, C. S., Stillwater
Perry, J. A., Pawnee
Perry, Ira, Stillwater
Pierce, C. W., Stillwater

Rader, J. M., Glencoe
Rader, L. L., Glencoe
Radnich, J. B., Stillwater
Ray, Ida, Yukon
Ray, Joseph, Yukon
Ray, W. T., Stillwater
Reisinger, Oliver, Stroud
Rial, T. A., Perry
Rice, E. E., Glencoe
Ricks, Arthur, Stillwater
Ricks, H. F., Stillwater
Ritchie, R. S., McComb

Sanders, Mrs. E. B., Stillwater
Sater, George R., Stillwater
Sayers, R., Agra
Schiewe, Emil, Morrison
Schimmel, Wm., Clinton
Schlelinber, C. L., Morrison
Schreiber, Mrs. W. E., Stillwater
Schroeder, Fred, Stillwater
Schroeder, Herman, Stillwater
Schroeder, Antone, Stillwater
Schyeete, Mrs. E. G., Stillwater
Scott, Chas. H., Magaztue, Ark.
Scroggs, Arthur, Stillwater
Scroggs, W. E., Stillwater
Scroggs, Willie, Stillwater
Scroggs, Ray, Perkins
Scroggs, J. G., Perkins
Seaton, Alva, McLoud
Seaton, Frank, McLoud
Secliger, E. G., Stillwater
Seeliger, Ernest, Stillwater
Seldomridge, Mrs. H. G., Stillwater
Sharp, C. P., Stillwater
Shawver, J. F., Stillwater
Shepler, W. D., Pawnee
Sherrard, E. R., Orlando
Shroyer, S. H., Cushing
Shull, Clara, Stillwater
Shumate, S. B., Perkins
Simmons, A. A., Stillwater
Simpson, W. G., Cercal
Simpson, J. S., Norge
Sinclair, James, Stillwater
Sinclair, James Jr., Stillwater
Slater, J. O., Wichita, Kans.

Tanscy, Ray, Pawnee
Tarrill, H., Stillwater
Taylor, L. A., Stillwater
Taylor, Mrs. L. A., Stillwater
Taylor, Frank, Columbus, Kans.
Taylor, Mrs. Lou, Stillwater
Taylor, Mrs. M. I., Stillwater
Taylor, Thos., Oklahoma City
Teter, Samuel E., Stillwater
Thompson, H., Stillwater
Thompson, Mrs. W. A., Stillwater
Thompson, W. A., Stillwater

Plogg, L. R., Ripley
Pochell, Mrs. E. F., Stillwater
Pochell, E. F., Stillwater
Potter, T., Stillwater
Potts, R. C., Stillwater
Pound, N. L., Stillwater
Pound, P. S., Stillwater
Pray, Mrs. Susan, Stillwater
Prior, J. H., Perkins
Pugh, Ed, Tonkawa
Purse, Mrs. J. M., Stillwater
Purse, J. M., Stillwater

Roberts, A. O., Stillwater
Rogers, C. F., Stillwater
Rolan, W. A., Eakley
Rosmussin, Mrs. I., Perry
Rothwell, C. L., Morrison
Rudisill, J. M., Tecumseh
Rundall, J. C., Chicago, Ill.
Rusher, R. W., Perkins
Russell, John, Glencoe
Rust, Roy, Stillwater
Ryan, A. Winfield, Orlando

Slater, B. A., Wichita, Kans.
Smith, C. S., Stillwater
Smith, W. W., Glencoe
Smith, Marvin, Glencoe
Smith, Willard, Eakly
Snyder, John D., Winfield, Kans.
Sorenson, Martin, Guthrie
Soric, J. B., Ripley
Spaid, E. M., Enid
Spalding, John A., North Enid
Spencer, H. J., Yale
Stacy, Mrs. J. S., Stillwater
Stacy, J. S., Stillwater
Steanson, S. M., Calumet
Steincamp, Wm., Ripley
Sterling, Alger D., Latham, Mo.
Sterling, Gerhardt, Latham, Mo.
Stevens, O., Stillwater
Stickel, Harold, Atlanta, Kans.
Stickel, J. L., Winfield, Kans.
Stickel, E., Stillwater
Stilson, Mrs. C. L., Stillwater
Stilson, C. L., Stillwater
Stoehr, W. J., El Reno
Stone, J. H., Newton, Kans.
Stone, I. L., Stillwater
Stone, C. H., Stillwater
Strange, J. L. M., Blackwell
Strigker, Frank, Fredonia, Kans.
Stringer, Obrey, Roosevelt
Suhl, Mrs. F. A., Stillwater
Sumner, M. G., Guthrie
Swartz, Conrad, Newkirk
Swisher, C. R., Wichita
Switzer, Owen, Stillwater

Thoroughman, N. O., Perkins
Tillion, Frank, Stillwater
Tillion, R., Stillwater
Tillotson, H. P., Stillwater
Tillotson, Mrs. Ruth, Stillwater
Tipton, L., Stillwater
Tomlinson, J. B., Cushing
Tool, C. E., Edmond
Tramell, W. W., Fort Worth, Texas
Traxel, B., El Reno
Tucker, Mrs. J. T., Stillwater

Utterback, Harry, Kingfisher

Vandemark, F. W., Stillwater
Van Hulse, Theo., Stillwater
Vitek, A. E., Glencoe
Vitek, Charles, Stillwater
Vitek, Mrs. Jane, Stillwater
Volmer, S. P., Stillwater

Wade, E. A., Alva
Wade, Charles, Stillwater
Walker, C. C., Oklahoma City
Walker, S. R., Stillwater
Warren, Clayton, Mulhall
Watrous, A. B., Stillwater
Watrous, Mrs. M. E., Stillwater
Watson, Mrs. C. B., Stillwater
Watson, W. A., Stillwater
Weathers, T. N., Stillwater
Weaver, Mrs. John, Stillwater
Weaver, John, Stillwater
Webber, Mrs. U. P., Stillwater
Wells, Mrs., Stillwater
Wells, Albert, Stillwater
Wells, Thomas, Stillwater
Wenner, F. L., Guthrie
Wernly, B. E., Stillwater
West, Bert, Stillwater
Westerbelt, L. C., Norman
Wetzel, J. W., Stillwater
White, Mrs. Mae, Vinita
White, M. C., Lamont
White, H. H., Wynnewood
Wilfong, J. W., Stillwater
Wilfong, M., Kansas City, Kans.
Wilkins, Mrs. E. C., Stillwater
Wilkins, E. C., Stillwater
Williams, Angus, Stillwater
Williams, A. W., Stillwater
Williams, Charles, Ripley
Williams, Miss Martha, Stillwater
Williams, M. D., Mehan
Williams, Virtes, Stillwater
Williams, Mrs. Wilfred, Stillwater
Williams, Wilfred, Stillwater
Williamson, J. J., Perkins
Williamson, Mrs. J. J., Stillwater
Williamson, J. J., Stillwater
Wilson, James, Tishomingo
Winchell, L. J., Newkirk
Wintermute, W. H., Bliss
Wisherd, M. B., Stillwater
Witten, Mrs. S. K., Stillwater
Woodard, W. G., Snyder
Woods, Louis, Stillwater
Worley, M. A., Stillwater
Worthington, J. H., Stillwater
Wright, F. W., Orlando
Wright, Mrs. F. W., Orlando

Young, C. W., Stillwater
Young, Joe, Stillwater
Younger, J. B., Stillwater

Zellar, Lizzie, Stillwater
Zellar, Stephen, Stillwater
Ziegler, M. F., Morrison
Zimmerman, E. R., Stillwater
Zimmerman, John, Helena
Zimmerman, Paul, Helena

Total enrollment, exclusive of duplicates 1,679
Enrollment, exclusive of students in Special Dairy Course, Farmers' Short Course, and Farmers' Cotton Grading Course 925

SCHEDULE

LECTURES, RECITATIONS AND AFTERNOON WORK

(Fall Term)

TIME	CLASS	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00	Sub-Freshman	Algebra I English II History II Latin II	Algebra I English II History II Latin II	Algebra I English II History II Latin II	Algebra I English II History II Latin II	Algebra I English II History II Latin II
	Freshman	English I Algebra II Algebra III	English I Algebra II Algebra III	Algebra II Algebra III	English I Algebra II Algebra III	English I Algebra II Algebra III
	Sophomore	English II Agronomy	English II Agronomy	Military Science Drawing (Do. Sci.)	English II Agronomy	English II Agronomy Drawing *2a*
	Junior	Physiology I Pedagogy I Calculus	Animal Parasites Botany 10 Pedagogy I Calculus	Physiology I Pedagogy I Calculus	Animal Parasites Botany 10 Pedagogy I	Physiology I Pedagogy I Calculus
	Senior	Agri. Chemistry English 5 Strength of Mater. Latin *3a*	Animal Husbandry English 5 Strength of Mater. Latin *3a* Mineralogy	Agri. Chemistry English 5 Strength of Mater. Latin *3a*	Fruit Growing English 5 Latin *3a* Mineralogy Differential Equa.	Agri. Chemistry English 5 Latin *3a*
8:55	Sub-Freshman	Arithmetic I Etymology II Gymnasium III	Arithmetic I Gymnasium II Etymology III	English III Algebra IV	Arithmetic I Etymology II Gymnasium III	Arithmetic I Gymnasium II Etymology III
	Freshman	Geometry I Geometry II Geometry III	Geometry I Geometry II Geometry III	Military Science	Geometry I Geometry II Geometry III	Geometry I Geometry II Gymnasium III

8:55	Sophomore	Chemistry I & II	Chemistry I (Eng. Div.) Modern History	Chemistry II	Chemistry I Modern History	Chemistry Drawing *2a*
	Junior	Botany *2* English 3 Electrical Engi. I German *2a*	English 3 Electrical Engi. I German *2a*	Botany *2* English 3 Electrical Engi. I German *2a* Pedagogy 6	English 3 German *2a*	Botany *2* English 3 Pedagogy 6
	Senior	Bacteriology I Pedagogy 4 Machine Design Hydraulics Plumbing	Dairying Architecture Pedagogy 4 Machine Design Hydraulics Domes. Sci. *11a*	Bacteriology I Machine Design Hydraulics Plumbing	Dairying Pedagogy 4 Elec. Engi. *4a* Irrigation	Bacteriology I Pedagogy 6 Machine Design Arch. Details
9:50	Sub-Freshman	History I Latin I Algebra III English IV	History I Latin I Algebra III English IV	CHAPEL	History I Latin I Algebra III English IV	History I Latin I Algebra III English IV
	Freshman	History I English II	History I English II Gymnasium III		History I English II	History I English II
	Sophomore	English I (Engi.) Zoology I Agronomy	English I Zoology I Agronomy		English I Zoology I Agronomy	English I Agronomy
	Junior	Zoology Home Economics Physics *2* Latin *2a*	Zoology Home Economics Physics *2* Latin *2a*		Zoology Social Observ. Latin *2a*	Botany 10 Physics *2* Latin *2a*
	Senior	Entomology Commercial Usages	Entomology Commercial Usages Domes. Sci. *11a*		Entomology Home Nursing Commercial Usages	Fruit Growing Home Nursing Commercial Usages
10:45	Sub-Freshman	Arithmetic II Algebra II English IV	Arithmetic II English III Algebra IV	Latin I History I Algebra III English IV	Arithmetic II English III Algebra IV	Arithmetic II English II Algebra IV

10:45	Freshman	Algebra I History III	Algebra I Gymnasium II History III	Algebra I English II Geometry III	Algebra I Gymnasium II History III	Algebra I History III
	Sophomore	Animal Husbandry Latin 1*a* Agronomy 9 Trigonometry	Dairying Latin 1*a* Trigonometry	Dairying Latin 1*a* Agronomy 9 Trigonometry	Animal Husbandry Latin 1*a* Trigonometry	Dairying Latin 1*a* Agronomy 9 Trigonometry
	Junior	Theory of Cooking Kinematics Civil Eng. 2 Arch. Eng. 1	Domestic Arts 6	Domestic Arts 6 Kinematics Civil Eng. 2 Arch. Eng. 1	Military Science	Steam Engines Irrigation Arch. Eng. 1
	Senior	Nursery Work Alternating Cur. Sociology	Domesic Sci. 11*a* Turbines Elec. Eng. 3 Sociology	Nursery Work Differential Equa.	Dom. Sci. 12*a* (Prac.) Sociology Turbines Elec. Eng. 3	Dom. Science 12*a* Turbines Elec. Eng. 3 Sociology
11:40	Sub-Freshman	English I Algebra II Arithmetic III Arithmetic IV	English I Algebra II Arithmetic III Arithmetic IV	English I Algebra II Gymnasium III	English I Algebra II Arithmetic III Arithmetic IV	English I Algebra II Arithmetic III Arithmetic IV
	Freshman	Gymnasium I History II English III	Gymnasium I History II English III	Gymnasium III History II	Gymnasium I History II English III	Gymnasium II English III
	Sophomore	German 1*a* Mechanics	German 1*a*	Modern History Mechanics	German 1*a*	German 1*a* Mechanics
	Junior	Chemistry 2	Civil Eng. 3	Latin 2*a*	Chemistry 2 Civil Eng. 3	
	Senior	Bridge Stresses Botany 6 House Furnishing	Chemistry 8*a* House Furnishing Differential Equa.	Bridge Stresses Botany 6	Military Science Dom. Science 12*a* (Prac.)	Bridge Stresses Botany 6 Chemistry 8*a*
1:30	Sub-Freshman	Gymnasium I & II	Etymology I	Gymnasium I	Etymology I	Gymnasium I
	Freshman	Animal Hus. II Drawing I	Drawing II Animal Hus. I	Animal Hus. II Domestic Arts Drawing I	Drawing II Animal Hus. I	Domestic Arts

	Sophomore	Chemistry II Zoology Agronomy	Chemistry I Mechanical Eng.	Chemistry II Zoology Dairying	Chemistry I Mechanical Eng.	Agronomy (3) Animal Hus. Domestic Arts Mechanical Eng.
	Junior	Physics Elec. Eng. I Botany (4) Zoology	Mechanical Eng. Railroad Curves Arch. Eng. Physiology 7 Chemistry	Mech. Drawing Surveying Word Construction Botany (4) Zoology Dairying (4)	Arch. Eng. Momestic Science Chemistry	Mechanical Eng. Railroad Curves Arch. Eng. Physiology
1:30	Senior	Latin 3*a* Arch. Details (4) Machine Design (4) Civil Eng. Agri. Chem. (4) Botany Pedagogy	Latin 3*a* Bacteriology Strength of Mat. Entomology 7 Pedagogy	Latin 3*a* Invalid Cooking Alternating Cur. Electrical Eng. 3 Bridge Stresses (4) Animal Husbandry Entomology Dairying Horticulture Mineralogy (4)	Latin 3*a* Adv. Handiwork Walls and Dams Animal Hus. Dairying Organic Chem.	Latin 3*a* Bacteriology Arch. Details Turbines (4) Hydraulics Plumbing Entomology Organic Chemistry
	All Classes	Music (3:30)	Drill (3:45)	Music (3:30)	Drill (3:45)	Music (3:30)

NOTE.—Hours for Pedagogy 4 and 6 may be changed later for accommodation of students in case of conflict with other studies.

SCHEDULE
LECTURES, RECITATIONS AND AFTERNOON WORK
(Winter Term)

TIME	CLASS	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00	Sub-Freshman	Algebra I English II Civics II Latin II	Algebra I English II Civics II Latin II	Algebra I English II Civics II Latin II	Algebra I English II Civics II Latin II	Algebra I English II Civics II Latin II
	Freshman	English I Geometry II Algebra III	English I Algebra III	Military Science I Geometry II Algebra III	English I Geometry II Algebra III	English I Geometry II Algebra III
	Sophomore	Analytics 1*a* English History Grain Judging	Analytics 1*b* English History Orchard Fruits	Analytics 1*a* Color & Theory	Analytics 1*a* English History Orchard Fruits	Analytics 1*b* English History Orchard Fruits
	Junior	Animal Hus. 4 Civil Eng. 10*a* Drawing 3*a* German 2*b*	Animal Hus. 4 Civil Eng. 10 *a* Chemistry 4 German 2*b*	Chemistry 3*a* Civil Eng. 10*a* Drawing 3*a* German 2*b* Pedagogy 7	Animal Hus. 4 Civil Eng. 10*a* Dom. Science 6*b* German 2*b*	Animal Hus. 4 Civil Eng. 10*a* Chemistry 4 German 2*b*
	Senior	Veterinary Med. 3 Horticulture 6 Dairying 6 English 6 Mech. Eng 16 German 2*b*	Dairying 4 Bacteriology 2 English 6 German 2*b*	Veterinary Med. 3 Horticulture 6 Dairying 6 English 6 Mechanical Eng. 16 German 2*b* Pedagogy 7	Dairying 4 Bacteriology 2 English 6 German 2*b* Horticulture 6	Veterinary Med. 3 English 6 German 2*b*
8:55	Sub-Freshman	Physiology I Etymology II Gymnasium III	Physiology I Etymology III	English III Algebra IV	Physiology I Etymology II Gymnasium III	Physiology I Gymnasium II Etymology III
	Freshman	Algebra I Algebra II History III	Alegbra I Algebra II History III	Algebra I Algebra II History III	Algebra I Algebra II History III	Algebra I Algebra II Military Sci. III

8:55	Sophomore	Chemistry I & II	English I (Eng.) Hygiene	English I (Eng.) Chemistry II	English I (Eng.) Theory of Cooking	English I (Eng.) Chemistry II
	Junior	Botany 4 Physics 3 Dom. Science 4*b*	Animal Hus. 3 Physics 3 Dom. Science 5*b* Chemistry 5	Botany 4 Elec. Eng. 2*a* Arch. Eng. 3 Dom. Science 4*b* Latin 2*b*	Animal Hus. 3 Elec. Eng. 2*a* Dom. Science 5*b* Chemistry 5 Latin 2*b*	Animal Hus. 3 Physics 3 Pedagogy 7 Latin 2*b*
	Senior	Agri. Journalism Mech. Eng. 13*b* Civil Eng. 15	Botany 7 Mech. Eng. 13*b* Civil Eng. 19*a* Arch. Eng. 8 Zoology 4 Social Science 6	Agri. Journalism Mech. Eng. 13*b* Civil Eng. 15	Botany 7 Mech. Eng. 13*b* Civil Eng. 19*a* Arch. Eng. 8 Zoology 4	Agri. Journalism Civil Eng. 15 Dom. Sci. 12*b* (Practicum) Pedagogy 7
9:50	Sub-Freshman	Civics I Latin I Algebra III English IV	Civics I Latin I Algebra III English IV	CHAPEL	Civics I Latin I Algebra III English IV	Civics I Latin I Algebra III English IV
	Freshman	Gymnasium I History II	History II		Gymnasium I History II	History II Gymnasium III
	Sophomore	English II	English II		Chemistry I (Eng.) English II	Chemistry I (Eng.) English II
	Junior	Agronomy 5 Dairying 2 Veterinary Med. I Mech. Eng. 11 Latin 2*b*	Agronomy 5 Dairying 2 Veterinary Med. I Mech. Eng. 11 Latin 2*b*		Agronomy 5 Dairying 2 Veterinary Med. I Mech. Eng. 11	Miltary Science
	Senior	Animal Hus. 6 Agronomy 7 Social Science 6 Elec. Eng. 5*b* Dom. Science 13*a* Botany 8 Entomology 4	Military Science Dom. Science 11*b*		Animal Hus. 6 Agronomy 7 Social Science 6 Elec. Eng. 5*b* Dom. Science 13*a* Botany 8 Entomology 4	Animal Hus. 6 Social Science 6 Dom. Science 12*b* (Practicum)
10:45	Sub-Freshman	Physiology II English III Algebra IV	Physiology II English III Algebra IV	Latin I Civics I Algebra III English IV	Physiology II English III Algebra IV	Physiology II English III Algebra IV

10:45	Freshman	Geometry I Gymnasium II English III	Gymnasium II English III	Geometry I Military Science II Gymnasium III	Geometry I Gymnasium II English III	Geometry I English III
	Sophomore	Descrip. Geom. I Soils Latin 1*b* Geology	Descrip. Geom. I Breeds Latin 1*b* Geology	Analytics 1*b* Soils Latin 1*b*	Descrip. Geom. I Breeds Latin 1*b* Geology	Descrip. Geom. I Soils Latin 1*b* Geology
	Junior	Zoology 2 Social Science 3 Calculus Pedagogy 2	Social Science 3 Calculus Pedagogy 2	Zoology 2 Civil Eng. 4 Pedagogy 2	Social Science 3 Calculus Pedagogy 2	Zoology 2 Social Science 3 Calculus Pedagogy 2
	Senior	Elec. Eng. 4*b* Animal Hus. 7 Agronomy 8*a* Dairying 5 Mech. Eng. 15 Civil Eng. 14 Pedagogy 2 German 3*b*	Elec. Eng. 6 Animal Hus. 7 Agronomy 8*a* Dairying 5 Mech. Eng. 15 Civil Eng. 14 Pedagogy 2 German 3*b* Chemistry 12*a*	Elec. Eng. 6 Mech. Eng. 17 Civil Eng. 21 Pedagogy 2 German 3*b*	Elec. Eng. 6 Animal Hus. 7 Agronomy 8*a* Dairying 5 Mech. Eng. 15 Civil Eng. 14 Pedagogy 2 German 3*b* Chemistry 12*a*	Elec. Eng. 6 Animal Hus. 7 Agronomy 8*a* Dairying 5 Mech. Eng. 15 Civil Eng. 14 Pedagogy 2
11:40	Sub-Freshman	English I Algebra II Physiology III Physiology IV	English I Algebra II Physiology III Physiology IV	English I Algebra II Gymnasium III	English I Algebra II Physiology III Physiology IV	English I Algebra II Physiology III Physiology IV
	Freshman	History I English II Geometry III	History I Gymnasium III	Gymnasium I English II Geometry III	History I English II Geometry III	History I English II Geometry III
	Sophomore	German 1*b*	German 1*b*	German 1*b*	Mili. Sci. I & II Textiles	German 1*b*
	Junior	English 4*a* German 1*b*	English 4*a* German 1*b*	English 4*a* German 1*b*	English 4*a* German 1*b*	English 4*a*
	Senior	Civil Eng. 16 Latin 3*b* Chemistry II Dom. Science 12*b*	Civil Eng. 16 Latin 3*b* Chemistry 8*b*	Arch. Eng. 9 Latin 3*b* Chemistry II Dom. Science 8*b*	Civil Eng. 16 Latin 3*b* Chemistry 8*b*	Civil Eng. 16 Latin 3*b*

	Sub-Freshman	Gymnasium I & II	Etymology I Gymnasium II	Gymnasium I	Etymology I	Gymnasium I
	Freshman	Animal Hus. I Drawing I Woodwork II	Animal Hus. II Drawing II Woodwork I	Animal Hus. I Drawing I Woodwork II	Animal Hus. II Drawing II Woodwork I Millinery	Sewing Woodwork I (4 hours)
	Sophomore	Chemistry I Dom. Science Agronomy	Chemistry II Mech. Drawing	Chemistry I Domestic Science Soils (4 hours)	Chemistry II Mecanical Drawing	Descrip. Geometry Basketry Animal Husbandry
1:30	Junior	Histology Soil Physics Wood Carving Elec. Eng. Building Plans (4 hours)	Soils Physics Domestic Arts Anatomy Dairying	Histology Soil Physics Drawing Thermodynamics Graphics	Soils Domestic Science Chemistry Botany Forge Shop Building Plans	Public Speaking Chemistry (4 hours) Thermodynamics Anatomy Dairying Graphics
	Senior	Botany Chemistry Embryology Plant Breeding Machine Design	Bacteriology Entomology Animal Husbandry Electrical Eng. Domestic Science	Botany Chemistry Soil Fertility Embryology Pomology Power Plants	Botany Entomology Chemistry Pomology Mechanical Eng. Domestic Science	Bacteriology Animal Husbandry Soil Fertility Power Plants Domestic Arts
	All Classes	Music (3:30)	Drill (3:45)	Music (3:30)	Drill (3:45)	Music (3:30)

NOTE.—Hours for Pedagogy 5 will be assigned by Dr. Bowers.

MONDAY.—Freshmen: Woodworking (4 hours). Sophomore: Mechanical Drawing; Orchard Fruits; Geology. Senior: Metallurgy; Chemistry Thesis; Dairying.

SCHEDULE
LECTURES, RECITATIONS AND AFTERNOON WORK
(Spring Term)

TIME	CLASS	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00	Sub-Freshman	Algebra I Oklahoma His. II English II Latin II	Algebra I Oklahoma His. II English II Latin II	Algebra I Oklahoma His. II English II Latin II	Algebra I Oklahoma His. II English II Latin II	Algebra I Oklahoma His. II English II Latin II
	Freshman	English I Geometry II	English I Geometry II	Gymnasium	English I Geometry II	English I Geometry II
	Sophomore	English I Agronomy Latin 1*c*	English I Agronomy Latin 1*c*	Entomology Latin 1*c*	English I Latin 1*c*	English I Agronomy Latin 1*c*
	Junior	Pedagogy 3 Calculus Animal Hus. 3*b* Household Ento.	Pedagogy 3 Calculus Entomology Drawing 3*b*	Pedagogy 3 Animal Hus. 3*b* Household Ento.	Pedagogy 3 Calculus Entomology Home Economics	Pedagogy 3 Calculus Entomology Theory of Cooking
	Senior	Bacteriology Wireless Teleg. Dom. Science 17 Landscape Garden. Water Supply Machine Design	Botany 9 Forestry Veterinary Med. Electrical Eng. 8 Water Supply	Botany 9 Col. & Ex. Station Work Machine Design	Bacteriology Dom. Science 17 Water Supply Landscape Garden. Electrical Eng. 8	Botany 9 Veterinary Med. Forestry Water Supply Machine Design
8:55	Sub-Freshman	Physiology II English III Algebra IV	Physiology II English III Algebra IV	Latin I Oklahoma His. I Algebra III English IV	Physiology II English III Algebra IV	Physiology II English III Algebra IV
	Freshman	English II Geometry III	English II Geometry III	Geometry II	English II Geometry III	English II Geometry III
	Sophomore	Chemistry 1 & 2	Chemistry I (Eng. Div.) Animal Husbandry Drawing 2*c*	Chemistry II Military Science I	Chemistry I Animal Husbandry Theory of Cooking	Chemistry II

8:55	Junior	Botany English 4*b* Chemistry 3*b* Applied Mechanics	Music English 4*b* Biology Applied Mechanics Chemistry 7	Pedagogy 8 English 4*b* Biology Boilers Chemistry 7	Music English 4*b* Biology Applied Mechanics	Pedagogy 8 English 4*b* Chemistry 7 Applied Mechanics
	Senior	Entomology Elec. Eng. 5*c* Latin 3*c* Railroad Eng. Col. & Ex. Station Work	Forestry Elec. Power Plants Latin 3*c* Estimates History of Foods	Entomology Electrical Eng. 5*c* Latin 3*c* Estimates	Forestry Ele. Power Plants Latin 3*c* Estimates History of Foods	Entomology Electrical Eng. 5*c* Latin 3*c* Railroad Eng. Col. & Ex. Station Work
9:50	Sub-Freshman	Latin I English IV Oklahoma His. I Algebra III	Latin I English IV Oklahoma His. I Algebra III	CHAPEL	Latin I English IV Oklahoma His. I Algebra IV	Latin I Oklahoma His. I Algebra III English IV
	Freshman	Algebra I Botany I English III	Algebra I Botany I English III		Algebra I Botany I English III	English III
	Sophomore	Astronomy Analytics German 1*c*	Astronomy Analytics German 1*c*		Astronomy Analytics German 1*c*	Drawing Astronomy German 1*c*
	Junior	Dom. Science 6*c* Agronomy 4 Electrical Eng. 2*b* Astronomy German 1*c*	Agronomy 4 Electrical Eng. 2*b* Astronomy German 1*c* Wood Carving		Agronomy 4 Boilers Astronomy German 1*c*	Agronomy 4 Boilers Astronomy Roof Trusses German 1*c*
	Senior	Pedagogy Electrical Eng. 4*c* Social Science 8 Special Dairy Prod.	Chemistry 13 Social Science 8 Contracts & Spec. Dom. Science 11*c*		Pedagogy Dom. Science 12*c* Social Science 8 Special Dairy Prod.	Chemistry 13 Social Science 8 Contracts & Spec.
10:45	Sub-Freshman	English I Algebra II Physiology III & IV	English I Algebra II Physiology III & IV	English I Algebra II	English I Algebra II Physiology III & IV	English I Algebra II Physiology III & IV
	Freshman	Physics	Physics	Military Science	Physics	Physics

10:45	Sophomore	Vege. Gardening American History History of Costume	Vege. Gardening American History History of Costume	Drawing History of Costume	Vege. Gardening American History History of Costume	Vege. Gardening American History History of Costume
	Junior	Latin 2c Roads & Pave. Agri. Economics Horticulture 9	Latin 2c Orders of Arch. Agri. Economics Horticulture 9 Wood Carving	Latin 2c Organic Chemistry (Prac.) Roads & Pave. Orders of Arch. Horticulture 9	Latin 2c Agri. Economics Horticulture 9	Latin 2c Agri. Economics Roof Trusses Horticulture 9
	Senior	English 7 Animal Husbandry Soil Fertility Heating & Ventil.	English 7 Animal Husbandry Soil Fertility Electrical Eng. 10	English 7 Animal Husbandry Heating & Ventil. Wireless Teleg.	English 7 Animal Husbandry Soil Fertility Electrical Eng. 10	English 7 Animal Husbandry Soil Fertility Heating & Ventil.
11:40	Sub-Freshman	Physiology 1 Etymology II	Physiology 1 Etymology III	English III Algebra IV	Physiology 1 Etymology II	Physiology 1 Etymology III
	Freshman	Geometry I Algebra II Botany II	Geometry I Algebra II Botany II	Geometry I	Geometry I Algebra II Botany II	Gymnasium
	Sophomore	English II Descrip. Geometry	English II Descrip. Geometry	Sanitation Military Science II	English II	English II Descrip. Geometry
	Junior	Chemistry 6 German 2c History of Arch.	German 2c	Chemistry 6 Organic Chemistry (Prac.) German 2c History of Arch.	German 2c	Roads & Pave. German 2c History of Arch.
	Senior	Social Science 7 German 2c Arch. Eng. 10	Social Science 7 German 2c Dom. Science 15	Crop Breeding Arch. Eng. 10 Dairy Engineering German 2c	Social Science 7 German 2c Dom. Science 15	Social Science 7 Crop Breeding Dairy Engineering German 2c
1:30	Sub-Freshman	Gymnasium	Etymology I		Etymology I	Gymnasium

	Freshman	Physics I Sewing Foundry (4 hours)	Physics II Public Speaking	Botany I (4 hours) Foundry (4 hours)	Millinery Public Speaking	Botany II (4 hours) Drawing
	Sophomore	Chemistry I Drawing Agronomy	Chemistry II Descrip. Geometry	Chemistry I Domestic Science (4 hours) Breeds	Chemistry II Mechanical Drawing (4 hours)	Domestic Arts Entomology Surveying (4 hours)
	Junior	Botany (3 hours) Chemical Eng. (3 hours) Drawing Machine Shop (4 hours) Orders of Arch.	Domestic Science Biology Farm Crops Boilers & Gears Roof Trusses Organic Chemistry (4 hours)	Botany (3 hours) Chemical Eng. (3 hours) Domestic Arts Machine Shop (4 hours) Building Plans (4 hours)	Biology Entomology Boilers & Gears Roof Trusses	Organic Chemistry (4 hours) Domestic Arts Surveying (4 hours) Electrical Eng. Orders of Arch. Aimal Husbandry
1:30						
	Senior	German 3c Machine Design Bridge Design (4 hours Plant Morphology Adv. Chemistry (3 hours) Ex. Sta. Work Landscape Gard. Domestic Science	German 3c Alternating Cur. Bacteriology Entomology Ex. Station Work Domestic Science	German 3c Machine Design Photometry Bridge Design (4 hours) Plant Morphology Adv. Chemistry (3 hours) Domestic Science Agronomy Special Dairy Prod. (4 hours)	German 3c Power Plants Entomology Forestry Live Stock Produc. Dairying Chemistry of Foods (4 hours)	German 3c Wireless Teleg. Bacteriology Horticulture Veterinary Med. Soil Fertility Needlework (4 hours)
	All Classes	Music (3:30)	Drill (3:45)	Music (3:30)	Drill (3:45)	Music (3:30)

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